國立交通大學

外國文學與語言學研究所

碩士論文

中文附加副詞與連接詞之研究：
以「也」、「而且」及「和」為例

Additive Adverbs and Coordinators in Chinese:
A Case Study of Ye ‘also’, Erqie ‘and’ and He ‘and’

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中華民國九十五年六月
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摘要

此篇論文主要探討兩個議題：(一)中文的附加副詞「也」；(二)中文的兩個連
接詞：「而且」與「和」。本論文首先以三點理由論證「也」在句法上是一個副詞，
第一：中文可藉零連接詞(zero coordinator)來連接兩個子句或片語；第二：「也」
可出現在單一子句中；第三：「也」可與連接詞「並且」或附屬連接詞「因為」
共現。至於「也」的語意分析，本文以 Rooth (1985, 1992, 1997)的「另類語意學」
(alternative semantics)為基礎，將「也」分析為「附加」副詞，其語意為：預設「另
類集合」(alternative set)中至少有一元素(member)為真。此分析解釋「也」可出
現於以下句型，但是「而且」卻要在特定條件下才可以：「什麼…都」句子之前；
兩個語義相反的謂語；以及「是」字句。本文以呂叔湘(1980)對「而且」的分析為出
發點，提出「而且」的語意分析
與「訊息資訊」(informativity)相關，並且要求其所連接的兩個述語必須屬於同極
(same polar)；此分析從以下句型「A 而且 B」的特性得到證明：B 蘊含 A；B 所
承載的訊息量多於 A；以及 B 常常帶有「也」、「還」等副詞。(請參閱 BarHillel
and Carna (1952), Popper (1959))。

亦可連接動詞及形容詞片語，因此本文認為「和」所連接的是「論元」而非「名
詞性片語」；此「論元」或為一階述語的論元；或為高階述語的論元。

最後，從中英比較得知以下結論：中文「也」的語意與英文‘too’或‘also’
的語意相同；然而，中文「而且」的語意與英文‘and’有很大的不同。
Abstract

This thesis studies two topics: (I) an additive adverb ye ‘also’; (II) two coordinators erqie ‘and’ and he ‘and’, which conjoin different types of conjuncts. We shall first argue that syntactically ye behaves as an adverb in the coordinated construction; semantically ye presupposes that there is at least one contextually salient expression P that is distinct from the sentence with ye is true (cf. Rooth (1985, 1992, 1997), Rullmann (2003), Tsai (2004)).

Second, we shall argue that syntactically erqie can conjoin clauses and phrases (except NPs); semantically erqie presupposes informativeness, and requires its conjuncts to be the same polar (cf. BarHillel and Carna (1952), Popper (1959)).

Third, we suggest that the idea that he conjoins nominal expressions be challenged by linguistic data observed by Lu (1980) and Zhu (1982). Thus, we propose that syntactically he conjoin arguments of either first-order predicate or higher-order predicate.

Crosslinguistically, the English counterpart of ye is too/also, whereas, the properties of erqie are not parallel to those of and.
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This thesis deals with two topics: (I) an adverb ye; (II) two coordinators erqie ‘and’ and he ‘and’. 1, 2 We shall first argue that syntactically ye behaves as an adverb in the coordinated construction by the following three reasons: (A) Chinese allows a zero coordinator; (B) ye can occur in a single sentence; and (C) ye can co-occur with a coordinator or a subordinator. Semantically, ye presupposes that there is at least one contextually salient expression P that is distinct from the sentence with ye is true. Assuming this analysis, we are able to represent and define the interpretation of ye formally and to provide well explanations for the following characteristics of ye: (A) when a modal occur in the coordinated structure, it has to occur in both conjuncts as in (1); (B) ye rather than erqie precedes the wh…dou construction as in (2); (C) ye instead of erqie appears in sentences with two contradictory conjuncts as in (3); and (D) ye can occur in shi ‘be’ clauses, but erqie can not unless followed by certain

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1 The gloss is as follows: erqie: ‘and’; ye: ‘also’; he: ‘and’; and hai: ‘even’ or ‘still’.
Abbreviations used in this thesis are as follows: ASP: aspect markers; CL: classifiers; DE: verbal suffix or marker for modifying phrases like genitive phrases, relative clauses, and noun complement clauses; BEI: passive marker; BA: the disposal marker, and SFP: sentence-final particles.

2 According to Zhu (1982), Tseng (1977), and Aoun and Li (2003), different categories of conjuncts are conjoined by difference coordinators in Chinese.
adverbs, as shown in (4).3

(1) Dang yisheng de yao xiaoxin, yi-tie yiao neng jiu
   As doctor DE need careful, one-CL medicine can save
   ren de ming, ye *(neng) hai ren de ming.
   people DE ming, also can harm people DE life
   ‘As a doctor, you should be careful, the medicine can save one’s life, and it can
   also take away one’s life.’

(2) Wo jiao-guo hao xuesheng, ye/*erqie jiao-guo huai
   I teach-ASP good students also/*and teach-ASP bad
   xuesheng, shenmeyiang de xuesheng wo dou keyi
   students, what kind DE students I all can
   yingfu.
   handle
   ‘I have taught good students, and also taught bad students, I can handle all kinds
   of students.’

(3) Zhangsan bu gao ye/*erqie bu ai.
   Zhangsan not tall also/*and not short
   ‘Zhangsan is neither tall nor short.’

(4) Zhe shi yizhang chuang ye/*erqie shi yizhang shafa.
   This is one-CL bed also/*and is one-CL sofa
   ‘This is a bed, and also a sofa.’

---

3 Erqie can proceed the wh…dou construction, occur in shi ‘be’ clauses, conjoin two contradictory
conjuncts, providing that it is followed by proper adverbs, such as ye ‘also’, hai ‘even’.
Second, we shall argue that the interpretation of ‘furthermore’ denoted by *erqie* in effect derives from the semantic nature of *erqie*. *Erqie* presupposes informativeness verified by the environments where *erqie* occurs: (A) in *p erqie q* construction, *q* entails *p*, as shown in (5); (B) the propositional strength of the conjunct following *erqie* must be stronger than the one preceding *erqie* in (6); and (C) the conjunct following *erqie* contains adverbs, such as *ye* ‘also’, *hai* ‘even’, as shown in (7)-(8).

(5) Muqian feiji yijing bei women kongzhi erqie feixing
    Right now airplane already BEI us control and flight
    jihua yijing yiusuo kengdong.
    plan already with change
    ‘Right now the flight is already controlled by us, and the plan of the flight has already changed.’

(6) Baishang you san-shi-ge ren kao-shang guoli-daxue
class have thirty-CL people pass national-university
    erqie di-er-leizu de bangshou zai wo-men bang.
    and second-group DE the first in our class
    ‘Thirty students in our class can enter the national universities, and furthermore
    the first of the second group is in our class.’

(7) Wo jiao-guo hao xuesheng, erqie ye jiao-guo huai
    I teach-ASP good-students and also teach-ASP bad
    xuesheng, (shenmeyiang de xuesheng wo dou keyi
    students (what kind DE students I all can
    yingfu).}
    handle
‘I have taught good students, and also taught bad students; (I can handle all kinds of students).’

(8) 我认识这三位教授，以及其中两位是我的导师，（我和他们再次熟悉了）。

Significantly important here is that *erqie* requires its conjuncts to be the same polar as shown by the contrast between (9)-(10).

(9) 这个苹果很大很甜。

‘This apple is very big and very sweet.’

(10) *张三不高不矮。

‘Zhangsan is neither tall nor short.’

Having looked at the characteristics of *ye* and *erqie*, we shall suggest that crosslinguistically, the English counterpart of *ye* is *too/also*, yet the characteristics of *erqie* do not match those of *and*. 
Finally, we propose that he ‘and’ conjoin arguments of either first-order predicate or higher order predicate, instead of conjoining nominal expressions, as shown in (11)-(12), respectively.

(11) Zhe-zhi gou he na-zhi mao dou hen keai.

This-CL dog and that-CL cat both very cute

‘This dog and that cat are both very cute.’

(12) Taishan de jingse *(shifen) zhuangli he xiongwei.

Taishan DE scenery very grandeur and majestic

‘The scenery of Taishan is very grandeur and majestic.’

This thesis proceeds as follows: previous studies of characteristics of ye and erqie will be reviewed in Chapter Two, and then the proposal of the syntax and semantics of ye and erqie will be suggested in Chapter Three and Four, respectively. In Chapter Five, the properties of the conjuncts conjoined by he will be reexamined, and finally the conclusion will be reached in Chapter Six.
In this Chapter, the syntax and semantics of erqie and ye are reviewed in Section 2.1 to 2.4 (cf. Zhu (1982), Ma (1982), Shen (1983)), and then some problems that can not be solved by previous studies are brought out in Section 2.5.

2.1 Literature Review: Syntax of Ye

2.1.1 Ye as an adverb

According to Chao (1968), Zhu (1982), Li and Thompson (1981), ye is an adverb of scope that refers to the scope of the expressions before ye, as shown in (13). That is to say, in (13) ye is used to exclusively quantify over the subject Zhangsan. However, Paris (1979) notices that ye can have its scope either to the right or to the left as illustrated by the ambiguous interpretations of (13).

(13) Zhangsan ye chi-le mian.

Zhangsan also eat-ASP noodles

‘Someone ate noodles, and Zhangsan also ate noodles.’

‘Zhangsan ate something, and he also ate noodles.’
2.1.2 Ye as a Coordinator

Li (1947), Tseng (1977) point out that ye is a coordinator conjoining non-nominal expressions, as shown in (14)-(20).

VP

(14) Zhangsan [VP qu-guo Meiguo], ye [VP qu-guo yingguo].

Zhangsan go-ASP America also go-ASP England

‘Zhangsan has been to America, and has also been to England.’

ModP

(15) Zhe-ci shi ni bu dui, ni [ModP yinggai chengren cuowu]

This-time is you not right you should confess mistakes

ye [ModP yinggai daoquan]

also should apologize

‘This time is your fault; you should admit that and also apologize.’

AdjP


Surface area very soft also very glory smooth

‘The surface is very soft and also very smooth.’

(17) Ta [AdjP hen congming] ye [AdjP hen piaoliang].

\(^4\) A difference in degree of grammaticality between (16a) and (16b) can be explained by Liu’s (2004) proposal: the insertion of a degree modifier like *hen* ‘very’ is a plausible strategy for Chinese, a language without grammatical tense, to provide the relative standard of comparison for gradable adjectives.
She very smart also very beautiful

‘She is very smart and also very beautiful.’

AdvP

(18) Ta jihua-de \([\text{AdvP} \text{ hen} \text{ zhouxiang}] \text{ ye} [\text{AdvP} \text{ hen} \text{ yianmi}].\)

He plan DE very comprehensively also very strictly

‘He plans very comprehensively and strictly.’

CP

(19) \([\text{CP} \text{ Zhangsan qu-guo Meiguo}, \text{ [CP Lisi ye qu-guo Meiguo].} \]

Zhangsan go-ASP America Lisi also go-ASP America

‘Zhangsan has been to America, and Lisi has also been to.’

(20) Ta pao-de \([\text{CP} \text{ hen renzhen}] \text{ ye} [\text{CP} \text{ hen xiangshou}].\)

He run DE very earnest also very enjoyable

‘He runs with earnest and also with enjoyment.’

From the above sentences, one may regard ye as an adverbial conjunction that functions to conjoin and to modify phrases or clauses.\(^5\) Yet, this will lead to an expansion of the lexicon. Ye will have two syntactic categories: on the one hand, it will be classified as an adverb when it appears in a single sentence, like (13); on the other hand, it will be an adverbial conjunction when it conjoins phrases or clauses, like (14)-(20). In the following, we shall therefore suggest that a uniform analysis for the status of ye be preferred in Chapter Three.

\(^5\) Chao (1968) claims that except for a few prepositional conjunctions, most conjunctions are adverbial conjunctions that serve both to join and to modify words, phrases or clauses.
2.2 Literature Review: the Semantics of Ye

As for the interpretation of ye, Lu (1980) among many researchers classifies ye into four types: (I) ye signifies the existence of two things that are equivalent; (II) ye represents the situation that the outcome is consistent no matter the assumption is realized or not; (III) ye with the meaning of ‘even’ preceded by an overt lian ‘even’ often occurs in negative sentences; and (IV) ye marks the emphatic use that characterizes the tone of voice called roundabout, tactful. These four types of uses are further characterized into subtypes, respectively, illustrated as follows.

I. ye signifies the existence of two things that are equivalent

A. juxtaposition of subject

(21) a. Ni qu Beijing canguan-fangwen, wo ye qu Beijing

You go Beijing visit I also go Beijing
canguan-fangwen.

6 Ma (1982) argues that ye underscores the similarity between two expressions (i.e., NPs, VPs, CPs, etc.) not the relations of juxtaposition or coordination of them. That is to say, the function of ye is to emphasize that the second clause is similar to the first. Still, ye should be deleted, if two expressions have no likeness or though with similarities but no requirement for emphasis. These facts are shown by (i)-(iii).

(i) Ta chi-le yi-ke pingguo, wo ye chi-le yi-ke pingguo.
He eat-ASP one-CL apple I also eat-ASP one-CL apple
‘He ate an apple, and I also ate an apple.’
(ii) Ta shi laoshi, wo shi xuesheng.
He is teacher I am student
‘He is a teacher, while I am a student.’
(iii) A: Nimen liang qu na-li?
You two go where
‘Where did you two go?’
B: Ta qu Meiguo; wo qu Yingguo.
He go America I go England
‘He went to America, while I went to England.’

Simply put, sentence (i) shows the fact that the verb phrase of the second clause is similar to that of the first clause. In (ii), there is no similar element between two clauses, so ye is deleted. Likewise, ye is deleted in (iiiB), when the answering sentence is just a statement rather than an emphasis.
visit

‘You go visiting Beijing, and I also go visiting Beijing.’

b. Lai ye keyi, bu lai ye keyi.⁷

‘You can either come or not come.’

B. juxtaposition of predicate⁸

(22) Zhangsan da bangqiu, ye ti zuqiu.

‘Zhangsan plays baseball, and also plays soccer.’

C. juxtaposition of adjunct

(23) Zhe-ge ren zuotian lai-le, jintian ye lai-le.

‘This person came yesterday, and also came today.’

II. ye represents the situation that the outcome is consistent no matter the assumption is realized or not

A. suiran ‘although’ (jishi ‘even if’, ningke ‘rather’)… ye ‘also’…

(24) Suiran yijing xia-yu-le, zuqiusai ye yao anshi

‘Although already fall-rain-ASP soccor-game also must on-time juxing.

---

⁷ Lu (1980) points out that ye can occur in both clauses, or just in the latter clause. Besides, Biq (1989) also argues that this point discriminates Chinese ye from English also. For ease of exposition, we only focus on sentences with ye in the second clause.

⁸ Lu (1980) observes that granted the identical subjects and verbs of two clauses, their objects can be preposed to the initial position, respectively, as shown by (i).

(i) Mantou wo chi, mifan wo ye chi.

‘I eat steamed buns, and I also eat rice.’
‘Although it rains a lot, the soccer game still has to be held on time.’

(25) Jishi ni bu suo, wo ye hui zhidao.\(^9\)

Even-if you not say I also will know

‘Even if you don’t tell me, I will still know that.’

(26) Wo ningke chidao, ye bu yao kai kuaiche.

I rather late also not want drive fast car

‘I would rather be late to driving fast.’

B. the element preceding ye is nominal, with the interpretation of ‘no matter …’\(^{10}\)

(27) Shei ye bu shuohua, yanjing dou ding-zhe heiban.

Who also not say eyes all fix-ASP blackboard

‘Everyone says nothing, and they all fix their eyes on the blackboard.’

C. repetition of verbs preceding and following ye with the meaning of ‘no matter how…’ or ‘even if’

(28) Pao ye pao bu dong.

Run also run not move

‘(No matter how hard you try to run), you cannot even move one step.’

(29) Ting ye mei ting jinqu ji-ju.

Listen also not listen inside some-CL

---

\(^9\) In suiran ‘although’ (jishi ‘even if’, ningke ‘rather’)… ye ‘also’ construction, the deletion of the coordinator, such as suiran ‘although’ (jishi ‘even if’, ningke ‘rather’) will not alter the interpretation of the sentence, as shown by (i) (cf. Lu (1980)).

(i) (Jishi) ni bu suo, wo ye hui zhidao.

(Even-if) you not say I also will know

‘(Even if) you do not tell me, I would still know that.’

\(^{10}\) Lu (1980) proposes that the meaning of ‘no matter how…’ can be expressed by certain adverb, such as yongyuan ‘never’ in (i).

(i) Ta yongyuan ye bu zhidao shenme shi lei.

He never also not know what is tiredness

‘(No matter how long he has worked), he would never feel tired.’
‘(Even if) you listened, you did not realize what was said.’

D. *zai* ‘again’ (*zui* ‘most’, *ding* ‘at most’) … *ye* ‘also’

(30) Yi-ge ren zai congming ye shi you xian.
    One-Cl person more smart also is has limit
    ‘Even if one is extremely smart, there are still some limitations.’

(31) Zuiyuan ye jiu shier-mi zuyou.
    Most-far also then twelve-meter about
    ‘The farest is only about twenty meters.’

(32) Dingduo ye buguo shi gongli.
    Top-most also only ten kilometer
    ‘At most it is only ten kilometers.’

III. *ye* with the meaning of ‘even’ preceded by an overt *lian* ‘even’ often occurs in negative sentences.\(^{11}\)

A. the element preceding *ye* is a noun

(33) Ta tou ye bu tai, zhuanxin xuexi.
    He head even not lift pay attention learning
    ‘He did not lift his head at all, and paid all his attention to learning.’

B. the element in front of *ye* is the construction of ‘yi ‘one’+ noun’

(34) Yi-zhang zhi ye mei diu.
    One-CL paper even not throw
    ‘Even one piece of paper is not thrown away.’

C. the element preceding *ye* is a verbal noun, and the numeral is limited to *yi* ‘one’

\(^{11}\) The question concerning why *ye* occurs more often in negative sentences will not be discussed in this thesis (cf. Biq (1989)).
(35) Yi-ci ye mei qu.

One-CL even not go

‘Do not go even once.’

(36) Shuzhi yi dong ye bu dong.¹²

Branch one move even not move

‘The branches do not move even a little.’

IV. the emphatic use that characterizes the tone of voice called roundabout, tactful

(37) Ni ye bu shi wai ren, wo dou ga su ni ba.

You also not is stranger I all tell you particle

‘You are not stranger, and I shall tell you everything.’

(38) Ni ye tai bu ke qi le.

You also too not polite le

‘You are also very impolite.’

Besides, Ma (1982) modifies Lu’s (1980) idea, proposes that ye signify the similarity between two expressions not mark the existence of two things, which are equivalent, as shown in (39). In (39), there is no identical element between two conjuncts. Instead, we can draw certain similarity between them: the intensity of ‘the wind’ and ‘the rain’ are both reduced.

(39) Feng ting-le, yu ye xiao-le.

¹² Lu (1980) observes that when a verbal noun is the same as a verb, the numeral yi ‘one’ can be omitted, as represented by (i).

(i) Shuzhi (yi) dong ye bu dong.

Branches (once) move also not move

‘The branches don’t move even a little.’
Wind stop-SPF rain also little-SPF

‘The wind stops, and the rain becomes lighter.’

Shen (1983) further pinpoints out that the similarity between two expressions will not be of importance unless certain existence of difference between them, as shown by (40)-(42).

\[(40)\] Zhangsan shi Meiguoren, Lisi ye shi Meiguoren.
Zhangsan is American Lisi also is American
‘Zhangsan is an American, and Lisi is also an American.’

\[(41)\] *Lisi shi Meiguoren, Lisi ye shi Meiguoren.
Lisi is American Lisi also is American
‘Lisi is an American, and Lisi is also an American.’

\[(42)\] *Zhangsan shi Meiguoren, Lisi ye shi Yingguoren.
Zhangsan is American Lisi also is English
‘Zhangsan is an American, and Lisi is also an English.’

Furthermore, Zhu (1982) proposes that ye denote the interpretations of ‘listing.’ For example, the ‘listing’ reading in (40) is to state that the following two persons are Americans: \textit{Zhangsan} and \textit{Lisi}.

Another important point is that, according to Lu (1980) and Ma (1982), these four uses of ye can be generalized as the first use, namely, there is only one ye that functions to emphasize the likeness between two expressions.

In sum, ye functions to underscore the similarity between two expressions; the similarity will not be imperative unless there is certain difference between two
expressions (cf. Lu (1980), Ma (1982), Shen (1983), Zhu (1968)).

2.3 Literature Review: Syntax and Semantics of *Erqie*

According to Zhu (1968), Lu (1980), Ma (1982), Aoun and Li (2003), *erqie* is a coordinator connecting two non-nominal categories: verb phrases, adjective phrases, and clauses.13 Interestingly, when *erqie* conjoins clauses, the clause following it usually carries some adverbs, such as *hai* ‘even’, *geng* ‘more’, and *you* ‘again’ as illustrated by (43)-(45). So, Lu (1980) argues that the semantics of *erqie* is *dijin* ‘furthermore’.

(43) Zhe-li bu shao ren shi wo de lao tongxue, erqie you
This-place not few people is my DE old classmates and have
de *(hai) shi hao pengyou.
DE even is good friends
‘Many people here are my old classmates, and some are even my good friends.’

(44) Cong lulu keyi qu, cong shuilu ye keyi qu, erqie
From land-rout can go from waterway also can go and
*(geng) jin yixie.
more near some
‘You can either go by land rout or by waterway, and the distance is much shorter by waterway.’

(45) Jingyan shi baogui de erqie jingyan de huode

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13 According to Aoun and Li (2003), presuming that *erqie* connects two verb phrases, these verb phrases can not express dual properties or activities of one individual, as shown in (i).

(i) Zhangsan nianshu *erqie/jian gongzuo, hen mang.
Zhangsan study and work very busy
‘Zhangsan studies and works; (he is) very busy.’
Experience is treasure De and experience de acquisition *(you) wangwang shi xuyao fuchu daijia de.
again always is need pay price De ‘Experience is valuable, and the acquisition of that always requires efforts.’

2.5 Some Problems

There is no denying that Zhu (1968), Lu (1980), Ma (1982), and Shen (1983) give a precise description for the syntax and semantics of ye, but they simply give us a description instead of an analysis with explanatory adequacy for the semantic nature of ye. Lu (1980) either touches the question of why there are usually adverbs following erqie.

Besides, we shall point out that previous analysis of ye and erqie is challenged by the following questions: First, why ye rather than erqie is used in the following sentence patterns: (A) preceding the wh...dou construction in (46); (B) two conjuncts with the contradictory interpretations in (47); and (C) two shi ‘is’ clauses in (48). Second, why erqie is optional, while ye is obligatory in ...(erqie)...ye...construction, as shown in the contrast between (49) and (50). Third, when a modal occurs in the coordinated structure, it has to occur in both conjuncts, as exhibited in (51).

(46) Wo jiao-guo hao xuesheng, ye/*erqie jiao-guo huai I teach-ASP good-students also/*and teach-ASP bad xuesheng, shenmeyiang de xuesheng wo dou keyi students what kind DE students I all can yingfu.
handle
‘I have taught good students, and also taught bad students; I can handle all kinds of students.’

(47) Zhangsan bu gao ye/*erqie bu ai.
Zhangsan not tall also/*and not short
‘Zhangsan is neither tall nor short.’

(48) Zhangsan shi Mali xinzhong de hao baba, ye/*erqie shi
Zhangsan is Mary at heart De nice father also/*and is
linju xinzhong de haohaoxiansheng.
neighbor at heart DE nice sir
‘Zhangsan is a good father at Mary’s heart, and also a nice person at neighbors’ heart.’

(49) Zhangsan qu-guo Meiguo, (erqie) Lisi ye qu-guo Meiguo.
Zhangsan go-ASP America and Lisi also go-ASP America
‘Zhangsan has been to America, and Lisi also has been to.’

(50) *Zhangsan qu-guo Meiguo, erqie Lisi qu-guo Meiguo.
Zhangsan go-ASP America and Lisi go-ASP America.
‘Zhangsan has been to America, and Lisi also has been to.’

(51) Ni keyi shui chuang, ye *(keyi) shui shafa.
You can sleep bed also can sleep sofa
‘You can either sleep on the bed, or sleep on the sofa.’

The above linguistic data leads us to the basic question that what the syntactic and semantic characteristics of ye and erqie are. In the following, we shall first discuss the properties of ye in Chapter Two, and then that of erqie in Chapter Three.
In Section 3.1, we shall first propose a uniform analysis for ye that is treated as an additive particle, and then briefly introduce Rooth’s (1985, 1992, 1997) alternative semantics to facilitate further discussion. The semantics of ye will be spelled out in Section 3.2.\footnote{Since ye plays a crucial role with respect to the pitch accent of the sentence, we shall suggest that ye be a focusing adverb in the following section (cf. König (1991)). Besides, the meaning of ‘additive’ in ‘additive particle’ actually derives from the presupposition of ye: asides from the sentence with ye is true, there is at least one additional expression P will be true (cf. Krifka (1999)).} In Section 3.3 we shall argue that the English counterpart of ye is 
\textit{too/also}.

3.1 Ye as an Additive Particle

In this section, we shall argue that ye is an adverb instead of an adverbial conjunction by the following evidence (cf. Lu (1968), Liu (2001), Hole (2004)). First, Chinese coordinated structure can be expressed by a coordinator, such as \textit{bingqie} ‘and’ in (52), \textit{er} ‘and’ in (53) or a zero coordinator in (54)-(57).\footnote{According to Chao (1968), in addition to an overt coordinator or a zero coordinator, there are four extra markers of coordination: (i) pause; (ii) particle; (iii) falling ending; and (iv) correlative marker or repeated marker, as shown by examples in (i)-(iv), respectively.}

\begin{enumerate}
  \item \textit{Zhangsan chi yi-wan fan, Lisi chi liang-wan mian.}\n  \textit{Zhangsan eat one-CL rice Lisi eat two-CL noodles.}\n  \textit{Zhangsan ate one bowl of rice, and Lisi ate two bowls of noodles.}
  \item \textit{Tamen tiantian daqiu  lei,  fushuei lei,  tiaowu le i.}\n  \textit{They everyday play ball Particle surf particle dance Particle}
\end{enumerate}
zero morpheme is the most frequent marker of coordinated structures.¹⁶ That is to say, coordinated expressions can occur in succession without conjunctions; sometimes even without pause, as shown by (54)-(57).¹⁷

(52) Dushuhui yiding yiao zhuzhi qi-lai bingqie zhichi
Study group must want organize arise-come and insist
xiaqu.
down-come
‘The study group must be organized and kept going on.’

(53) Bali shi Faguo de shoudu, er Luoma shi Yidali de shoudu.
Paris is France DE capital and Rome is Italy DE capital
‘Paris is the capital of France, and Rome is the capital of Italy.’

(54) Zhangsan chi-le liang-wan fan, Lisi chi-le wu-wan mian.
Zhangsan eat-ASP two-CL rice Lisi eat-ASP five-CL noodles
‘Zhangsan ate two bowls of rice, and Lisi ate five bowls of noodles.’

(55) ‘They play ball, surf and dance everyday’

(ii) Tai hui hua niao · hua · shu · fangshi, jiu shi bu hui hua ren.
He can draw birds flowers trees house yet not can draw people
‘He can draw birds, flowers, trees, houses, but not people.’

(iv) a. Zhangsan budan hui yingwen ye hui fawen.
Zhangsan not only know English also know French
‘Zhangsan can not only speak English but also French.’
b. Zhangsan you change you tiaowu.
Zhangsan also sing also dance
‘Zhangsan is singing and dancing.’

¹⁶ This does not entail that each coordinator can be substituted by a zero morpheme. For example, some sentences will alter their meanings, supposing that the original coordinator is deleted, as shown by the contrast between (i) and (ii).

(i) Ni yiao ziji qu huo gen bieren qu?
You want self go or with other people go
‘Do you want to go by yourself or with others?’
(ii) *Ni yiao ziji qu gen bie ren qu?

¹⁷ The conjuncts are prone to occur in succession without pause, when their conjuncts are short (cf. Chao (1968)).
(55) Ni bu lai, wo bu qu.18
    You not come I not go
    ‘Neither do you come, nor do I go.’

(56) Ta youshihou ku, youshihhou xiao.
    He sometimes cry sometimes laugh
    ‘He sometimes cries and sometimes laughs.’

(57) Tamen mai zhuozi yizi.
    They sold tables chairs
    ‘They sold tables and chairs.’

Given this, sentences with ye can be conjoined by a zero coordinator, and ye does not have to serve as a coordinator.

    Second, ye, unlike a coordinator bingqie ‘and’, can occur in a single sentence, as illustrated by (58)-(61). Thus, ye can not be treated as a coordinator, since it has nothing to conjoin.19

(58) Lisi ye qu-guo Meiguo.
    Lisi also go-ASP America
    ‘Lisi has also been to America.’

(59) *Bingqie Lisi qu-guo Meiguo.20 21

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18 Example (55) is structurally ambiguous. It can be analyzed as a coordinated structure or a conditional sentence. Since the conditional structure is beyond the scope of the thesis, we shall only focus on the first interpretation.

19 One may argue that when ye occurs in a single sentence, it is a macrosyntactic use of a conjunction, depending on something outside the sentence in which it occurs. This usage of ye is beyond the scope of this thesis, and we shall not discuss it in the remaining thesis.

20 According to Zhu (1968), Lu (1980), bingqie ‘and’ is a coordinator.
And Lisi go-ASP America

‘And Lisi has also been to America.’

(60) Zhe ye jiu shi laoshi chang shuo de: you zhi zhe shi
This also then is teacher often say DE: you will person thing
jing cheng.
eventually success

‘This is what the teacher said: where there is a will there is a way.’

(61) *Bingqie zhe jiu shi laoshi chang shuo de: you zhi
And this then is teacher often say DE: you will
zhe shi jing cheng.
person thing eventually success

‘And this is what the teacher said: where there is a will there is a way.’

Third, a coordinator generally cannot co-occur with another coordinator or
subordinator. This substantiates that ye, which can follow a coordinator qie ‘and’ or
a subordinator yinwei ‘since’, is not a coordinator, as shown by (62)-(64).22

(62) Ta changchang bu tinghua, bingqie youshi ye hui
He usually not obedient and sometimes also will
shua-piqi.
lose temper

‘He is not usually obedient, and sometimes he also loses his temper.’

(63) *Ta changchang bu tinghua, qie bingqie youshi hui

21 In case that more information is provided in the discourse, this sentence can be grammatical in the conversation.

22 According to Zhu (1968), Lu (1980), qie ‘and’ is a coordinator.
He usually not obedient and and sometimes will shua-piqi.

lose temper

‘He is not usually obedient, and sometimes he also loses his temper.’

(64) (Yinwei) ta you yi-shuang da yianjing, suoyi ye/* bingqie
Since she has one-CL big eyes so also/*and
geng xiyin ren.
more charming people

‘Since she has big eyes, she is more charming.’

Thus far, it is plausible for us to rule out the possibility that ye functions as a conjunction, or as an adverbial conjunction.

In sum, we have pointed out that ye should be an adverb by the following reasons: (A) Chinese allows a zero coordinator, and thus ye does not need to function as an adverbial conjunction; (B) ye can occur in a single sentence; and (C) ye can co-occur with a coordinator or a subordinator. In the following, we shall first briefly introduce Rooth’s (1985, 1992, 1997) alternative semantics as a preliminary, and then the proposal that ye presupposes an alternative set will be suggested.

3.2 Proposal

3.2.1 Preliminary of Ye: Rooth’s Alternative Semantics

The idea of Rooth’s (1985, 1992, 1997) alternative semantics is to account for the interpretation of focus by first proposing the idea that in addition to the ordinary semantic value of an expression $\alpha$, written $[[\alpha]]^0$, each expression has a focus semantic value $[[\alpha]]^f$ that is in contrast to the ordinary semantic value $[[\alpha]]^0$. The
focus semantic value for a phrase $\alpha$, represented as $[[\alpha]]^f$, is a set of propositions that derives from the ordinary semantic value. Seen in this way, the focus semantic value of $[[\alpha]]^f$ results from substitution in the position corresponding to the focus phrase $\alpha$ of the ordinary semantic value. For example, the focus semantic value of (65) is the set of propositions of the form ‘$x$ likes Sue’, as shown by (66b).

(65) [Mary]$^f$ likes Sue.

(66) a. $[[ [\text{Mary}]^f \text{ likes Sue } ]]^o = \text{Mary likes Sue}^{23}$

b. $[[ [\text{Mary}]^f \text{ likes Sue } ]]^f = x$ likes Sue, where $x$ is in contrast to ‘Mary’

Simply put, the focus semantic value of (65b) is the set of propositions contrary to the ordinary semantic value. So, the denotation of the variable $x$ introducing by focus is a set of alternatives of ‘Mary’.

Second, in addition to the intonational reflex of focus, Rooth (1985, 1992, 1997) pinpoints out that certain lexical or specific constructions also have focus-related effect that introduces variable.\(^{24}\) For example, only in auxiliary position is assigned a lexical semantic value quantifying properties (cf. Rooth (1985, 1992, 1997)). The semantic nature of only in (68a) is the quantification in (68b) representing that if $P$ is a property in a certain set of properties $C$, and Mary has that property, and then $P$ is identical to the property expressed by VP.

Besides, in virtue of variations derived from certain pragmatic factors, Rooth (1985, 1992, 1997) claims that the function of the focus semantic value is to constrain

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\(^{23}\) The ordinary semantic value is equivalent to the original sentence.

\(^{24}\) One of the specific constructions pertinent to association-with-focus effect is a cleft sentence (cf. Rooth (1992)). This is beyond the scope of the thesis; we shall not discuss it in the remainder of this thesis.
rather than to fix $C$ illustrated by the focus-determined constraint in (68c).\textsuperscript{25} Give this, the focus semantic value for (68) is the proper superset of $[[VP]]^f$ including propositions based on choices of $x$ that are not people.

(67) Mary only introduces [Bill]$_f$ to Sue.

(68) a. Mary only VP

\hspace{2.5em} b. $\forall P [P \in C \land P(m) \rightarrow P = VP']$

\hspace{2.5em} c. Focus-determined constraint: $C \in [[VP]]^f$, where $C$ serves as a domain of quantification

(69) $[[VP]]^f = \text{introducing } x \text{ to Sue}$

Third, Rooth (1985, 1992, 1997) further argues that the constraints introduced by focus interpretation can be regarded as presupposition. For instance, the focus-determined constraint in (68c) shows the presupposition that if Mary has a property of the form ‘introducing $x$ to Sue’, then it must be the property of ‘introducing Bill to Sue’. So, it excludes other possibilities.

Finally, Rooth (1985, 1992, 1997) proposes that focus semantic values be interpreted by the operator $\sim$, which annotates the level at which focus is interpreted and also introduces the focus constraint, as illustrated by (71), the configuration of (67), repeated as (70).

\textsuperscript{25} According to Rooth (1985, 1992, 1997), the focus semantic value is to constrain $C$ rather than to fix it. This proposal yields the right explanation of (i).

(i) John only eat, beef noodles.

Focus-determined constraint: $C \in [[[\text{sell beef noodles, buy beef noodles, cook beef noodles }]]]$ Simply put, sentence (i) means that if John has property of the form ‘P beef noodles’, and then it is the property of ‘eating beef noodles’, rather than ‘selling beef noodles’, ‘buying beef noodles’ or ‘cooking beef noodles’.
(70) Mary only introduces \([\text{Bill}]_P\) to Sue.

(71)

In short, the focus in (71) is interpreted at the level of VP, while only\((C)\) is an overt representation of the domain of quantification. Since \(C\) is a variable, its value is either one member of a set of propositions of the form ‘introducing \(x\) to Sue’ or is fixed by pragmatics. Given this, Rooth (1985, 1992, 1997) stipulates the LF representation of (72) to make association of focus with focusing adverbs, only, obligatory.

(72)
In a nutshell, the idea of alternative semantics is to account for the effect of focus by an additional focus semantic value. Rooth (1985, 1992, 1997) argues for a uniform analysis of focus by the operator ~, which annotates the level at which focus is interpreted and also introduces the focus-determined constraint. The function of the focus-determined constraint is to restrict the elements of the antecedent for the variable introduced by focus interpretation, and its status is identified as presupposition. Having as a preliminary the introduction of alternative semantics, we shall propose an analysis for the semantics of ye in the subsequent section.

3.2.2 Semantics of Ye

Along the line of Rooth’s (1985, 1992, 1997) alternative semantics, we shall suggest that semantically an additive particle ye presupposes that there is at least one contextually salient proposition P that is distinct from the sentence with ye is true (cf. Rullmann (2003), Tsai (2004)). This proposal can explain the following questions: (A) how to represent the ambiguous interpretations of a single clause with ye, such as (74); (B) how to define previous descriptions of ye formally: (i) ye means ‘listing’ (cf. Zhu (1982)), (ii) ye signifies the similarity between the two expressions (cf. Lu (1980), Ma (1982)), and (iii) the similarity will not be significant unless there is certain difference between two expressions (cf. Shen (1983)); and (C) why ye rather than ergie occurs in certain sentence patterns.

Assuming Rooth’s (1985, 1992, 1997) alternative semantics, we first assign ye a lexical semantic value with quantificational force. The focus semantic value is derived from making a substitution in the position corresponding to the focus semantic value of the ordinary semantic value. In other words, the focus semantic value and the ordinary semantic value are equivalent except for the substitution part,
turning out to be a variable introduced by the focus, and thus the semantics of ye is spelled out as (73).

(73) \([\{ye\}] = \text{a set of expressions } P \in \{[[\alpha]]^f - [[\alpha]]^o\}\)

Simply put, the semantics of ye denotes a set of expressions P belonging to a set of expressions of the focus semantic value other than the ordinary semantic value. Namely, ye presupposes that there is at least one contextually salient expression P that is distinct from the sentence with ye is true.

Assuming this way of analysis, we would be able to represent the ambiguous interpretations of (74) in a formal way. On condition that the focus is on VP, ye presupposes an alternative set of ‘Lisi qu-guo Meiguo’, as shown by ‘Lisi P’, and at least one member from that set is true, as shown in (76a). Namely, P can be Lisi qu-guo Yingguo ‘Lisi has been to England’, Lisi qu-guo Riben ‘Lisi has been to Japanese’, Lisi qu-guo Deguo ‘Lisi has been to German’, and etc, illustrated by (77).

(74) Lisi ye qu-guo Meiguo.

(75) Lisi ye [VP qu-guo Meiguo]_f.

Lisi also go-ASP America
‘Lisi has been to someplace (≠ America)), and Lisi has also been to America.’

(76) a. \([\{ye\}] = \text{a set of propositions of } P \in \{[[\text{qu-guo Meiguo}]]^f - [[\text{qu-guo Meiguo}]]^o\}\)

b. Focus-determined constraint: \(C \in [[\text{qu-guo Meiguo}]]^f\), where C serves as a domain of quantification
(77)  
```
S
   NP
   |  VP
  Zhang san ye(C)
   |  VP
   |  ~C
   qu guo mei guo
```

On condition that the focus is on subject NP, the semantic nature of ye in (79) is to presuppose that there is at least one proposition with the form ‘P qu-guo Meiguo’, where P is not ‘Lisi’ is true, as represented by (80). By analogy with (75), P can be Zhangsan ‘Zhangsan’, Wangwu ‘Wangwu’, Zhaoliu ‘Zhaoliu’. What is imperative is that the level at which the operator ~ interprets focus disposes two different interpretations, as exemplified by configurations (77) and (80).

(78) Lisi ye qu-guo Meiguo.

Lisi ye qu-guo Meiguo

‘Someone (≠ Lisi) has been to America, and Lisi has also been to.’

(79) a. \([\text{ye}]\)= a set of propositions of \(P \in \{ [[\text{Lisi}]^\text{f} \text{ qu-guo Meiguo} - [[\text{Lisi}]^\text{o} \text{ qu-guo Meiguo} \}

b. Focus-determined constraint: \(C \in [[\text{Lisi}]]^\text{f}\), where C serves as a domain of quantification
Second, the proposal also helps us to account for the characteristics of *ye* reviewed in Chapter Two: *ye* signifies the similarity between two expressions; the similarity will not be significant unless there is certain difference between the two expressions (cf. Lu (1980), Ma (1982), and Shen (1983)). This phenomenon is exemplified by the ungrammaticality of (81) with more than one variable introduced by focus, and (82) without any variable.

(81) *Zhangsan qu-guo Yingguo, Lisi ye qu-guo Meiguo.

Zhangsan go-ASP England Lisi also go-ASP America

‘Zhangsan has been to England, and Lisi has also been to America.’

(82) *Lisi qu-guo Meiguo, Lisi ye qu-guo Meiguo.

Lisi go-ASP America Lisi also go-ASP America

‘Lisi has been to America, and Lisi has also been to America.’

Simply put, the second clause of (81) with two foci, which introduces two variables: \( C_1 \) and \( C_2 \); however, there is only one *ye* that introduces domain of quantification.
Thus, either $C_1$ or $C_2$ will be vacuously quantified and it results in the ungrammaticality of (81). In (82), no contrast between the two clauses yields the outcome that no variable for ye to quantify over. So, either (82) is ungrammatical.

Furthermore, the idea that ye denotes ‘listing’ can be realized as the choice of alternatives that are members in the set of proposition P, the focus semantic value other than the ordinary semantic value.

Third, in the light of the facts above, the semantics of ye in (73) also explains the following questions: (A) in ...(ergie)...ye construction, ergie is optional while ye is obligatory; (B) ye not ergie precedes the wh...dou construction; (C) ye can occur in sentences with two contradictory predicates, while ergie cannot do so; (D) ye instead of ergie appears in sentences containing shi ‘be’; and (E) when a modal occur in the coordinated structure, it has to occur in both conjuncts, as shown in (83)-(91), respectively (cf. Simons (2005)).

(A) In ...(ergie)...ye construction, ergie is optional while ye is obligatory, as shown in the contrast between (83) and (84).

(83) Zhangsan qu-guo Meiguo, (ergie) Lisi ye qu-guo Meiguo.
Zhangsan go-ASP America and Lisi also go-ASP America
‘Zhangsan has been to America, and Lisi also has been to.’

(84) *Zhangsan qu-guo Meiguo, ergie Lisi qu-guo Meiguo.
Zhangsan go-ASP America and Lisi go-ASP America
‘Zhangsan has been to America, and Lisi also has been to.’

In (83), ergie is optional because it can be replaced by a zero coordinator. In contrast, ye is obligatory because the speaker’s presupposition that there is at least one more
person who has been to America must be saturated by the presupposition of ye.

For ease of exposition, we shall first explain why ye is used in the following sentences; whereas why erqie is not used will not be illustrated until the semantic nature of erqie is proposed in Chapter Four.²⁶

(B) Ye not erqie precedes the wh...dou construction, as shown in (85).

(85) Wo jiao-guo hao xuesheng, ye/*erqie jiao-guo huai
I teach-ASP good students also/*and teach-ASP bad xuesheng, shenmeyiang de xuesheng wo dou keyi
students what kind DE students I all can yingfu.
handle
‘I have taught good students, and also taught bad students; I can handle all kinds of students.’

(86) \([\text{[ye } \alpha]\)] presupposes that there is at least one contextually salient expression \(P \in \{\text{teach } \text{[[bad]]}^\text{f} \text{ students} - \text{teach } \text{[[bad]]}^\text{o} \text{ students}\}\) such that \(P\) is true.

According to Lin (1997), Cheng (1991), and Cheng and Huang (1996), wh phrases obtain the universal interpretation when they occur with dou. With the presupposition of ye in (85), it is desirable for ye to precede the wh...dou construction because the combination of the ordinary semantic value of ‘teaching bad students’ and the focus semantic value of that is the denotation of universal interpretation.

²⁶ Erqie can proceed the wh...dou construction, occur in shi ‘be’ clauses, conjoin two contradictory conjuncts, providing that it is followed by proper adverbs, such as ye ‘also’, hai ‘even’.
(C) Ye can occur in sentences with two contradictory predicates, while erqie cannot do so, as shown in (87).

(87) Laoshi zanmei women, ye/*erqie piping women.
    Teacher praise us also/*and criticize us
    ‘The teacher not only praises us, he also criticizes us.’

(88) [[ye (\alpha)]] presupposes that there is at least one contextually salient expression
    \[ P \in \{ [[\text{criticize us}]^f - [[\text{criticize us}]^o} \} \text{ such that } P \text{ is true.} \]

A similar way of presupposition also obtains from ye in (87), as demonstrated by (88). Ye presupposes an alternative set of ‘criticize us’. Namely, there is at least one contextually salient property \( P \in \{ [[\text{criticize us}]^f - [[\text{criticize us}]^o} \} \) such that \( P \) is true.

(D) Ye instead of erqie appears in sentences containing shi ‘be’ in (89).

(89) Zhangsan shi Mali xinzhong de hao baba, ye/*erqie shi linju
    Zhangsan is Mary at heart De nice father, also/*and is neighbor
    xinzhong De haohao xiansheng.
    at heart DE nice sir
    ‘Zhangsan is a good father at Mary’s heart, and also a nice person at neighbor’s heart.’

(90) [[ye (\alpha)]] presupposes that there is at least one contextually salient expression
\[ P \in \left[ \text{nice person at neighbor’s heart} \right]^f \neg \left[ \text{nice person at neighbor’s heart} \right]^o \]

such that \( P \) is true.

The denotations of \( ye \) in (89) is represented in (90). The second \( shi \) ‘be’ clause reveals the identification relationship of ‘Zhangsan’ and ‘nice sir at the neighbor’s heart’ (cf. Huang (1979)). The use of \( ye \) presupposes that besides the identification of ‘Zhangsan’ and the ordinary semantic value of ‘nice person at neighbor’s heart’ is true; there is also at least one contextually prominent identification between \( P \in \left[ \text{nice person at neighbor’s heart} \right]^f \neg \left[ \text{nice person at neighbor’s heart} \right]^o \) and ‘Zhangsan’ is true.

(E) When a modal occurs in the coordinated structure, it has to occur in both conjuncts, as exhibited in (91) (cf. (Simons (2005)).

(91) Ni keyi he ca, ye keyi he kafe.
You can drink-tea also can drink coffee
‘You can drink tea or you can drink coffee.’

This is only applicable when the relation of the two conjuncts is exclusive (cf. Quirk et al. (1985)). For example, in (i) one is implausible to sleep on the sofa and on the bed, simultaneously. However, if the relation of the two conjuncts is inclusiveness, either the modal of the first conjunct or that of the second conjunct can be omitted, but the interpretation has been altered, as shown in (i)-(iii).

(i) Ni keyi he ca, ye keyi he kafe.
You can drink-tea also can drink coffee
‘You can drink tea or you can drink coffee.’

(ii) Ni keyi he ca, ye he kafe.
You can drink tea also drink coffee
‘You can both drink tea and coffee (at the same time).’

(iii) Ni he ca, ye keyi he kafe.
You drink-tea also can drink coffee
‘When you drink tea, you can also drink coffee.’

Simply put, in (i) the speaker provides two choice: ‘drinking tea’ and ‘drinking coffee’ to the listener. The interpretation of (ii) is similar to that of (i) because the modal carries the widest scope. However, in (iii) the second conjunct is just like an adjunct; it is likely to be a subordinate clause rather than the coordinated construction.

27 Thanks to Wei-Tien Dylan Tsai, Zhong-Yu Yang, and Yi-Da Xie for pointing out this point.
(92) \([\text{ye (o)}]\) presupposes that there is at least one contextually salient expression

\[ P \in [[\text{the choice of sleeping on the sofa}]]_f^o - [[\text{the choice of sleeping on the sofa}]]^o \] such that P is true

The semantics of ye in (91) is represented in (92). Ye is an additive particle which presupposes that besides the ordinary semantic value of the choice of sleeping on the sofa’ is true; there is at least one contextually salient proposition \( P \in [[\text{the choice of sleeping on the sofa}]]_f^o - [[\text{the choice of sleeping on the sofa}]]^o \) such that P is true. If the modal of the second clause is deleted, the ordinary semantic value of the focus part turns out to be the proposition of ‘sleeping on the sofa’, rather than ‘the choice of sleeping on the sofa.’ That is to say, ye turns out to presuppose that besides the ordinary semantic value of ‘sleeping on the sofa’ is true, there is at least one contextually salient proposition \( P \in [[\text{sleeping on the sofa}]]_f^o - [[\text{sleeping on the sofa}]]^o \) such that P is true. In this way, the presupposition of ye is not compatible with the first conjunct. Thus, the modal of the second conjunct is obligatory.

To sum up, the proposal that ye presupposes that there is at least one contextually salient expression P that is distinct from the sentence with ye is true can provide explanations for the following questions raised in Section 2.5: (A) ye rather than erqie is used in the following sentence patterns: (i) preceding the wh…dou construction, (ii) sentences with contradictory predicates, and (iii) shi ‘be’ clauses; (B) in ...(erqie)...ye…construction, erqie is optional while ye is obligatory; (C) when a modal occurs in the coordinated structure, it has to occur in both conjuncts. After the demonstration of the semantic nature of ye, we shall next compare ye with too/also.
3.3 Ye is Equivalent to Too/Also

In this section, we shall claim that the English counterpart of ye is *too/also* (cf. Kaplan (1984), König (1991), Rullmann (2003), Hole (2004)). Significantly important here is that Rullmann (2003) gives the semantics of *too*, and also applies it to *also*, and *as well*. Given this, we shall treat the semantic properties of *also* and *too* as equivalence. We shall review previous studies of characteristics of *too*. Green (1973) is the first one who noted that *too* is obligatory after sentential conjunctions with exactly one meaning difference, as shown by the contrast between (a) and (b) in (93)-(94).

(93)  a. Jo had fish and Mo did, too.
       b. *Jo had fish and Mo did.

(94)  a. *Jo had fish and Mo had soup, too.
       b. Jo had fish and Mo had soup.

Namely, in (93b) *too* is obligatory because there is only one difference, while in (94a) *too* is unnecessary because there are two differences. This phenomenon corresponds to that of ye in Section 3.2.2, as illustrated by (81)-(82), repeated as (95)-(96).

(95)  *Zhangsan qu-guo Yingguo, Lisi_1 ye qu-guo Meiguof.

Zhangsan go-ASP England Lisi also go-ASP America

‘Zhangsan has been to England, and Lisi has also been to America.’

29 We shall not discuss the characteristics of *as well* in this thesis.
Lisi qu-guo Meiguo, Lisi ye qu-guo Meiguo.
Lisi go-ASP America Lisi also go-ASP America
‘Lisi has been to America, and Lisi has also been to America.’

Besides, Kaplan (1984) provides the semantic nature and discourse function of too, as represented in (97) and (98), respectively.

(97) Too conventionally implicates: What speakers say about the contrasting (or focused) constituent in the second clause, speakers also say about the contrasting (or focused) constituent in the first clause.30

(98) Hypothesized discourse function of too: To emphasize the similarity between contrasting constituents.

Simply put, the function of too is to emphasize the similarity between two items with only one difference. This exactly corresponds to the semantics of ye shown in the previous sections (cf. Lu (1980), Ma (1982), Shen (1983)).

Furthermore, Rullmann (2003) adopts Rooth’s (1985, 1992, 1997) alternative semantics to spell out the semantics of too as follows: too adds the presupposition that at least one of the propositions in the focus value of its host sentence is true.31 From the above linguistic data, we can wrap up the conclusion that the semantics of ye and also/too has no distinctions.

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30 The word ‘contrasting’ means the single difference between the two conjuncts.

31 Rullmann (2003) calls the sentence in which too occurs the host sentence.
4.1 Syntax and Semantics of Erqie

According to Zhu (1968) and Lu (1980), we shall suggest that syntactically erqie be a coordinator conjoining clauses and phrases (except NPs), as represented by (99)-(103).

(99) Zhangsan \([_{\text{VP}} \text{chi-le fan}] \text{ erqie } [_{\text{VP}} \text{he-le tang}]\].

Zhangsan eat-ASP rice and drink-ASP soup

‘Zhangsan has had some rice and soup.’

(100) Ta \([_{\text{AdjP}} \text{hen congming}] \text{ erqie } [_{\text{AdjP}} \text{hen piaoliang}]\].

She very smart and very beautiful
‘She is very smart and very beautiful.’


He plan DE very comprehensively and very strictly

‘He plans very comprehensively and strictly.’

(102) *[NP Zhe-zhi gou] erqie [NP na-zhi mao] dou hen keai.

This-CL dog and that-CL cat both very cute

‘This dog and that cat are both very cute.’

(103) [CP Zuotian you dizhen] erqie [CP zhenyang jiu zai

Yesterday has earthquake and epicenter right at

Taipei].

Taipei

‘There was an earthquake yesterday, and the epicenter is in Taipei.’

Semantically, Lu (1980) provides a precise description that erqie means ‘furthermore’, and notices that sentences containing erqie usually carry adverbs, such as hai ‘even’ and ye ‘also’, as represented in (104)-(105), respectively.

(104) Zhe-li bushao ren shi wo de lao tongxue, erqie you

This-place not-few people is my DE old classmates and there

de *(hai) shi hao pengyou

DE even is good friends

‘Many people here are my old classmates, and some of them are even my good friends.’

(105) Wo jiao-guo hao xuesheng, erqie *(ye) jiao-guo

I teach-ASP good students and also teach-ASP
huai xuesheng, (shenmeyiang de xuesheng wo dou keyi yingfu)
bad students what kind DE students I DOU can handle
'I have taught good students, and also taught bad students; (I can handle all kinds of students).'

However, Lu’s (1980) simply gives us a description instead of an analysis with explanatory adequacy for the semantics of erqie. Besides, Lu (1980) neither touches the question of what environments erqie can occur in.

In the following, we shall first point out that erqie can occur in the following three sentence patterns: (A) in p erqie q construction, q entails p, as shown in (106); (B) the propositional strength of the conjunct following erqie must be stronger than that of the conjunct preceding erqie in (107); and (C) the conjunct following erqie contains adverbs, such as ye ‘also’, hai ‘even’, as shown in (108)-(109).

(106) Muqian feiji yijing bei women kongzhi erqie feixing
   Right now airplane already BEI we control and flight
   jihua yijing yiusuo kengdong.
   plan already with change
   ‘Right now the flight is already controlled by us, and the plan of the flight has already changed.’

(107) Baishang you sanshi-ge ren kao-shang guoli-daxue
   class have thirty-Cl people pass national-university
   erqie di-er-leizu de bangshou zai wo-men bang.
and second-group DE the first in our class

‘Thirty students in our class can enter the national universities, and furthermore
the first of the second group is in our class.’

(108) Wo jiao-guo hao xuesheng, erqie ye jiao-guo huai
I teach-ASP good-students and also teach-ASP bad
xuesheng, (shenmeyiang de xuesheng wo dou keyi
students (what kind DE students I all can
yingfu).
handle
‘I have taught good students, and also taught bad students; (I can handle all
kinds of students).’

(109) Wo ren-shi zhe-san-ge jiaoshou, erqie qizhong you liang-ge
I know this-three-CL professors and among with two-CL
*(hai) shi wo-de zhidaolaoshi, (wo gen tamen zai shou
even is my adviser. (I with them again familiar
bu-guo).
not-over
not-enough familiar SFP
‘I know these three professors, and two of them are even my advisers. I can
not be more familiar with them.’

Second, we shall suggest that the interpretation of ‘furthermore’ comes from the
presupposition of *erqie*, relating to the notion of informativeness.\(^{32}\)

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\(^{32}\) Thanks for Jo-Wang Lin for pointing out this.
4.2 Analysis: *Erqie* Presupposes Informativeness

In this section, we shall first introduce the notion of informativeness in (110) as preliminaries of our analysis for the semantic representation of *erqie*, and then the proposal that *erqie* presupposes informativeness will be suggested.

(110) Informativeness: *p* is more informative than *q* if the set of states of affairs that *q* rules out is a proper subset of the set that *p* rules out (cf. BarHillel and Carna (1952), Popper (1959), Atlas and Levinson (1981), and Levinson, S.C. (2000))

Simply put, BarHillel and Carna (1952) and Popper (1959) point out that given a domain of discourse, the semantic information content of a message can be measured in proportion to the number of states of affairs that the message effectively rules out. Assuming such a definition of informativeness, we shall propose that *p* be more informative than *q* if the size of the possible worlds in which *p* is true is smaller than the size of the possible worlds in which *q* is true. Besides, we can further infer that *p* is more informative than *q* if *p* can dominate all of the set of the possible worlds in which the sentence is true. So, we would expect that in ‘*p erqie q*’ construction, the speaker can make his or her speech as informative as possible with the following two strategies: one is to narrow down the set of the possible worlds in which the sentence is true; the other is to control all of the set of the possible worlds in which the sentence is true. Assuming this way of analysis, we can explain why *erqie* can occur in the following three sentence patterns.

First, in ‘*p erqie q*’ construction, *q* entails *p*, as shown in (111)-(112). In (111),

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33 The analysis of informativeness is in accordance with Grice’s Cooperative Principles, especially the Maxims of Quantity (cf. Grice (1975)):

Q1: Make your contribution as informative as is required (for the purpose of the exchange).
Q2: Do not make your contribution more informative than is required.
the second conjunct ‘the location of the epicenter’ entails the first conjunct ‘the occurrence of the earthquake’. Likewise, in (112) the second conjunct ‘ensure that he can not run away’ entail the first conjunct ‘imprison him’.

(111) Zuotian you dizhen erqie zhenyang jiu zai Taipei.

Yesterday has earthquake and epicenter right at Taipei

‘There was an earthquake yesterday, and the epicenter is in Taipei.’

(112) Ba ta guan qilai, erqie yao queding ta mei fazi taozou.

BA he imprison arise-come and must sure he no way run-away

‘Imprison him and make sure that he can not run away.’

Second, though the conjuncts do not possess the relation of entailment, the propositional strength of the conjunct following erqie must be stronger than that preceding erqie.\(^{34}\) Namely, the function of erqie is to restrict the set of the possible worlds in which the sentence is true, as shown in (113).

(113) Ge zu dou dedai hen hao de chengji erqie

Each group all get very good de score and

(qizhong) yi di-san zu de chengji dui wei tuchu.

(among those) the-third group De score most prominent

‘Every group all gets good grades, and (among those) the grades of the third

\(^{34}\) The domain of the propositional strength is not strictly defined by the relationship of entailment, rather by the relative size of the set of possible worlds in which the sentence is true.
group are the most prominent.’

Simply put, in (113) the assertion that (among those) the grades of the third group are the most prominent carries more informational load than the assertion that every group all gets good grades. In other words, the set of the possible worlds in which (among those) the grades of the third group are the most prominent is true is smaller compared to the set of the possible worlds in which every group all gets good grades is true. Similarly, when erqie conjoins two coordinated predicates, the set of the possible worlds in which the sentence is true will be limited because the truth condition of the sentence is the intersection of two coordinated predicates, as shown in (114).

(114) Zhe-ke  pingguo hen dai erqie  hen tian.
   This-CL apple very big and  very sweet
   ‘This apple is very big and very sweet.’

Given a domain consisting of ten apples, and considering just the properties of apples characterized by two predicates, say very big and very sweet, the assertion this apple is very big may rule out just three apples, but the assertion this apple is very big and very sweet may rule out nine apples. In terms of the case above, it is desirable to say that the set of possible worlds in which the apple is very big and very sweet is true is smaller than the set of possible worlds in which the apple is very big.

However, one may point out that ungrammaticalities of (115) and (116), rather similar to (114), are contrary to our expectation.
In fact, this question can be reinterpreted as what kind of conjunct is capable of being coordinated by *erqie*. Before providing our answer, we shall first introduce the idea of polar opposition of adjectives.

According to Cresswell (1976), Hellan (1981), and especially Pinkal (1989), gradable adjective are characterized as expressions that map objects to abstract representations of measurement, namely, scales. Precisely, scales are sets of points (degrees) that are totally ordered along a dimension determined by the adjective (e.g., *weight*, *length*, *temporal precedence*, etc.). In the light of antonymous pairs of adjectives such as ‘big’ and ‘small’, they map identical arguments onto the same scale (and are therefore associated with the same dimension introduced by *size*), but they introduce the opposite ordering relations (Rullmann (1995)). Thus, such antonymous pairs ‘big’ and ‘small’ are dubbed adjectives of different polar. Significantly important here is that antonyms of other categories, a verb pair ‘criticize’ and ‘praise’ are viewed as different polar.

Let us back to the question of whether there is any restriction for the conjuncts conjoined by *erqie*. We propose that *erqie* require the conjuncts it conjoined to be

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35 According to Zhu (1956), adjectives can be divided into two types (cf. Zhu (1961, 1982, 1993)). One is the absolute adjective, such as *hen* ‘true’ that is incompatible with any degree modifier, for example *hen* ‘very’; the other is the gradable adjectives, such as *piaoliang* ‘beautiful’ which can optionally take a degree modifier.
the same polar, as exemplified by the following empirical facts (117)-(119).

(117) *Zhe-ke pingguo hen da erqie hen suan.
    This-CL apple very big and very sour
    ‘This apple is very big and very sour.’

(118) *Zhangsan bu gao erqie bu ai.
    Zhangsan not tall and not short
    ‘Zhangsan is neither tall nor short.’

(119) *Laoshi zanmei women, erqie piping women.
    Teacher praise us and criticize us
    ‘The teacher not only praises us, he also criticizes us’

Simply put, in (117) the first conjunct very big is on the opposite scale of ‘size’, still the second one very sour is on the negative scale of ‘sweetness’. In other words, the two conjuncts are on the opposite polar of scales introduced by respective adjectives; this yields to maximizing the possible worlds in which sentence (117) is true. So, sentence (117) is ungrammatical.\(^{36}\) Similarly, in (118) the two conjuncts conjoined by erqie, namely, not tall and not short are expressions that map the identical argument Zhangsan to the opposite side of the scale ordered along the dimension of height. This will increment the size of possible worlds in which (118) is true, thus neither (118) is grammatical. By analogy, we can say that the ill-formedness of (119) is caused by different polar of the conjuncts: ‘criticize’ and ‘praise’.

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\(^{36}\) Thanks to Chen-Sheng Liu and Wei-Tien Dylan Tsai for remaining us that world knowledge plays an important role in deciding whether the conjuncts are in the same polar, as illustrated in (i):

(i) Qinghai Xizang gaoyuan hen gao erqie hen leng.
    Qinghai Xizang Plateau very high and very cold
    ‘Qinghai Xizang Plateau is very high are cold.’
Third, in ‘p erqie q’ construction, q usually contains adverbs, such as ye ‘also’, and hai ‘even’. The presupposition carried by these adverbs increments the information load of the sentence by controlling all of the set of the possible worlds in which the sentence is true, as shown by (120) and (121).

(120) Wo jiao-guo hao xuesheng, erqie ye jiao-guo huai
I teach-ASP good students and also teach-ASP bad xuesheng, (shenmeyiang de xuesheng wo dou keyi students what kind DE students I DOU can yingfu).
handle
‘I have taught good students, and also taught bad students; (I can handle all kinds of students).’

(121) Wo ren-shi zhe-san-ge jiaoshou, erqie qizhong you liang-ge
I know this-three-CL professors and among with two-CL *(hai) shi wo-de zhidaolaoshi, (wo gen tamen zai shou even is my adviser (I with them again familiar bu-guo).
not-over
not-enough familiar SFP
‘I know these three professors, and two of them are even my advisers. I can not be more familiar with them.’

Simply put, in (120) we have shown that ye presupposes an alternative set of taught good students, therefore the two conjuncts I have taught good students, and also
taught bad students denoting the universal interpretation can be followed by *I can handle all kinds of students*. The speaker tries to make his or her conversation as informative as possible by handling all of the set of possible worlds in which the sentence *I have taught students* is true. Likewise, in (121) *hai* ‘even’ presupposes that providing the least possible condition that *two of them are my advisers* is true, the assertion that *I know these three professors well* will inevitably be true.\(^{37}\) Again, the speaker utilizes the presupposition of *hai* ‘even’ to control all of the set of possible worlds in which *I knows these three professors well* is true, and satisfies the requirement of *erqie*.

To sum up, we suggest that *erqie* presuppose informativeness by either narrowing down the set of possible worlds in which the sentence is true or by controlling all of the set of possible worlds in which the sentence is true. Besides, the conjuncts conjoined by *erqie* should be the same polar.

After the demonstration of the semantics of *erqie*, let us back to the question why *ye* rather than *erqie* occurs in the following sentence patterns: (A) sentences containing two contradictory predicates; (B) preceding the *wh…dou* construction; and (C) *shi* ‘be’ clauses, as shown by (122)-(124), respectively.

(122) *Laoshi zanjei women, erqie piping women.*

Teacher praise us and criticize us

‘The teacher not only praises us, he also criticizes us.’

(123) *Wo jiao-guo hao xuesheng, erqie jiao-guo huai xuesheng, shenmeyiang de xuesheng wo dou keyi*

I teach-ASP good students and teach-ASP huai xuesheng, shenmeyiang de xuesheng wo dou keyi

\(^{37}\) See Liu (1996) and Yeh (1998) for the presupposition of *hai* ‘even’.
bad students what kind DE students I DOU can handle

‘I have taught good students, and also taught bad students; I can handle all kinds of students.’

(124) *Zhe shi yizhang chuang erqie shi yizhang shafa.
This is one-CL bed and is one-CL sofa

‘This is a bed, and also a sofa.’

In fact, the above sentences can be rescued with the addition of proper adverbs, as shown in (125)-(127).

(125) Laoshi zanmei women, erqie ye piping women.
Teacher praise us and also criticize us

‘The teacher not only praises us, he also criticizes us.’

(126) Wo jiao-guo hao xuesheng, erqie ye jiao-guo huai xuesheng, shenmeyiang de xuesheng wo dou keyi yingfu.
I teach-ASP good students and also teach-ASP bad students what kind DE students I all can handle

‘I have taught good students and also have taught bad students. I can handle all kinds of students.’

(127) Zhe shi yizhang chuang erqie ye shi yizhang shafa.
This is one-CL bed and also is one-CL sofa
‘This is a bed, and also a sofa.’

Simply put, in type B sentence (126), we have discussed the phenomenon that owning to the presupposition of *erqie*, the adverb *ye* following *erqie* is obligatory (cf. (120)). In type A, *erqie* can not conjoin contradictory conjuncts, unless *ye* is inserted. *Ye* presupposes an alternative set of ‘criticize us’ including the possibility of ‘praise us’, so sentence (125) is grammatical. In type C, the insertion of *ye* enables the listener to know that in addition to the identification of ‘this’ and ‘sofa’ is true, another identification, such as ‘this’ and ‘bed’ is also true. If *ye* is deleted in (127), listeners will not be able to know what the pronoun ‘this’ refer to: ‘bed’ or ‘sofa’.

4.3 *Erqie vs. And*

In this section, we shall discuss the syntactic and semantic distinctions between *erqie* in Chinese and *and* in English. Syntactically, *erqie* is a coordinator conjoining clauses and phrases (except NPs), while *and* is a coordinator conjoining any categories as long as they are syntactically or semantically conjoinable (cf. Zhu (19968), Lu (1980), Aoun and Li (2003), Quirk (1985)). We shall then briefly introduce the previous analysis of *and*; then the proposal that *erqie* is not equivalent to *and* will be provided.

Several linguists, beginning with Grice (1975) and including Schmerling (1975), Posner (1978), and Gazdar (1978) propose similar analysis for *and*, they claim that *and* can be regarded as equivalent to logical conjunction, and its variation in meaning is a matter of pragmatic inference. That is to say, *and* is basically ‘symmetric’, and any asymmetric interpretation is attributed to context. For example, in (128) there is no need to set up a special ‘and then’ *and* for English (cf. Grice
(128) John stood up and objected to the proposal.

Whether the symmetric and asymmetric and should be analyzed as a uniform phenomenon or not is not the central issue of this thesis. We shall focus on discussing the multiple interpretations of and to support that the English counterpart of erqie is not and. In case that and is a symmetric conjunction, the order of the two clauses can be reversed, as shown in (129a-b).

(129)a. Paris is the capital of France, and Rome is the capital of Italy.

   b. Rome is the capital of Italy, and Paris is the capital of France.

In contrast, the order of the clauses conjoined by an asymmetric and can not be reversed, as in (130)-(132). Significantly important here is that the asymmetric use of and denotes the interpretation of cause-effect, temporal succession, nontemporal succession, as shown in (130)-(132), respectively.

(130) John called a secret meeting and offended Mary.

(131) John went to the store and bought some whiskey.

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38 Supposing and is interpreted as a symmetric conjunction, the order of the conjuncts can be reversed, as in (i) and (ii).

(i) Paris is the capital of France, and Rome is the capital of Italy.
(ii) Rome is the capital of Italy, and Paris is the capital of France.

Both (i) and (ii) exhibit a linguistic property in (iii).

(iii) \( p \land q \equiv q \land p \)

39 Grice (1975) suggests that the hearer may infer such a temporal sequence on the basis of a principle of conversation, that is, we talk about events in the order in which they occurred.
(132) Aunt Hattie wants you to be nice and kisses your granny.

(= It would be nice of you to kiss your granny.)

We shall point out that the usages of *erqie* do not match to those of *and* because of the ungrammaticality of its counterpart in English, as shown in (129)’-(132)’ (cf. Schmerling (1975))

(129)’ a. *Bali shi Faguo de shoudu, erqie Luoma shi Yidali de shoudu.*

Paris is France DE capital and Rome is Italy DE capital

b. *Luoma shi Yidali de shoudu erqie Bali shi Faguo de shoudu.*

Rome is Italy DE capital and Paris is France DE capital

(129)” a. *Bali shi Faguo de shoudu er Luoma shi Yidali de shoudu.*

Paris is France DE capital and Rome is Italy DE capital

b. *Luoma shi Yidali de shoudu er Bali shi Faguo de shoudu.*

Rome is Italy DE capital and Paris is France DE capital

(130)*Yuehan zhaokai mimi huiyi erqie maofan-le Mali.*

John call secret meeting and offend-ASP Mary

(130)” Yuehan zhaokai mimi huiyi jieguo maofan-le Mali.

John call secret meeting the result offend ASP Mary

(131)*Wo qu-le shangdian erqie mai-le weishigi.*

I go-ASP store and buy-ASP whisky

(131)” Wo qu-le shangdia ∅ mai-le weishigi.

(132)*Zhang ayi xiwang ni haoxin erqie qinwen nide nainai.*
Simply put, in (129) the symmetric *and* is understood as *er* ‘and’ in Chinese as shown in (129)”. Regarding to multiple meanings of the asymmetric *and* in (130)-(132), they are translated to different words, as shown in (130)”-(132)”", respectively: (A) the cause-effect *and* in (130) can be seen as *jieguo* ‘the result’ in Chinese, as shown in (130)”; (B) the temporal succession *and* in (131) can be replaced by a zero coordinator as shown in (131)”; and finally (C) the nontemporal succession *and* in (132) seems to be a subordinator rather than a coordinator, as shown in (132)”.

From the above linguistic data, it reveals that *and* can coordinate conjuncts with the relations of cause-effect, temporal succession, or non-temporal succession, whereas *erqie* cannot do so. Therefore, *erqie* can not be translated as *and* in English.
Chapter 5
What Kind of Conjuncts He ‘and’ Conjoins

Chinese coordinators can be classified into different types according to the categories that they conjoin (cf. Tseng (1977), Zhu (1982), Liu (2000)). In this chapter, we shall first present the previous analysis of he in Section 5.1, and then point out some counterexamples observed by Lu (1980) and Zhu (1982). In Section 5.2, we shall briefly introduce the basic notion of the first-order predicate and the higher-order predicate, and then the proposal that he conjoins arguments is provided.

5.1 Literature Review

In English, the coordinator and can be used to conjoin like phrases of basically any category, whereas in Chinese there is a rich set of coordinators used to connect different types of like categories. For example, he can only connect phrases, more specifically, nominal expressions, such as proper names, pronouns, expressions containing demonstratives, or number + classifier, as shown in (133)-(136) (cf. Chao (1968), Tseng (1977), Aoun and Li (2003)).
(133) Zhangsan he Lisi fenbie qu Meiguo he Yingguo

Zhangsan and Lisi respectively go America and England

liuxue.

study abroad

‘Zhangsan and Lisi study abroad in America and England, respectively.’

(134) Ta he wo dou xihuan gou.

He and I all like dogs

‘He and I all like dogs.’

(135) Zhe-zhi gou he na-zhi mao dou hen keai.

This dog and that cat both very cute

‘This dog and that cat are both very cute.’

(136) Zhangsan mai-le yi-zhi bi he liang-ben shu.

Zhangsan bought one pen and two books

‘Zhangsan bought one pen and two books.’

At a superficial level, the idea that he conjoins nominal phrases seems to be reasonable, since this can fill in the gap of erqie, which fails to conjoin noun phrases.

However, this claim is challenged by examples like (137)-(138):

(137) Taishan de jingse *(shifen) zhuangli he xiongwei.

Taishan DE scenery very grandeur and majestic

‘The scenery of Taishan is very grandeur and majestic.’

(138) Wo *(hai) yao shuoming he buchong ji-ju.

I still want explain and supplement several sentences

‘I still want to explain and supplement several sentences.’
In the following, we shall first briefly introduce the notion of the first-order predicate and the higher-order predicate; then our proposal that he conjoins arguments will be illustrated.

5.2 Proposal

5.2.1 Preliminary Analysis

5.2.1.1 First-Order Predicate

The basic atomic type are e (for entity) and t (for truth value). That is to say, an expression of syntactic categories, like proper names and individuals, can be said to be of the type e. A sentence, denoting a truth value, is of the type t (cf. Montague (1974), Heim and Kratzer (1998)). In the first-order logic, it only allows us to quantify over variables whose type is e, for example, we can say that there is something that has the property of being large, as represented by (139) (cf. Barwise and Etchemendy (2000)).

\[(139) \exists x \text{ large}(x)\]

Simply put, ‘something’ denotes an individual of the type e, and ‘large’ is a first-order predicate that is a predicate applicable to individuals.

5.2.1.2 Higher-Order Predicate

First-order predicate is not sufficient to describe our languages. There are many nouns and verbs that are not properties of individuals, but properties of properties of individual. Thus, the higher-order predicate that is possible for a quantifier to bind
not only individuals but also predicate variables is introduced. The following example from Partee et al. (1990) makes the idea of higher-order predicates very clear: if the vase is blue, and blue is a color; we cannot say that the vase is a color, but rather the vase is of a color. The predicate ‘is a color’ cannot properly be applied to an ordinary individual, ‘the vase’, but can be applied to the property of the individual ‘blue’.

Besides, higher-order logic is useful for describing the semantics of various categories in natural language, such as an adverb, which takes the first-order predicate as its argument (cf. Reichenbach (1947), Allwood et al (1997)).

5.2.2 **He Conjoins Arguments**

Assuming the above predicate logic, we shall suggest that *he* conjoin arguments rather than nominals. It is crucial that adverbs preceding two conjuncts conjoined by *he* are obligatory, as illustrated in (140)-(142). Thus, we claim that the conjuncts conjoined by *he* are the arguments of adverbs, the higher-order predicates that quantify over properties of individuals.

(140) Taishan de jingse *(shi-fen) zhuangli he xiongwei.*

‘The scenery of Taishan is very grandeur and majestic.’

40 Thanks for Chen-Sheng Liu for pointing out this.

41 One may ask why there exists a difference in the degree of grammaticality between different adverbs, as shown by in (i)-(ii).

(i) Taishan de jingse shifen zhuangli he xiongwei.

(ii) Taishan de jingsehen hen zhuangli he xiongwei.

Simply put, a disyllabic adverb *shifen* ‘very’ is more suitable to be a higher-order predicate than a monosyllabic adverb *hen* ‘very’. This may be related to prosodic structures requiring further study (cf. Shih (1986)).
His words is so accurate and powerful

‘His words are so accurate and powerful.’

I again want explain and supplement several sentences

‘I want to explain and supplement several sentences again.’

As for (140) the adjectives ‘grandeur’ and ‘majestic’ are type \(<e, t>\); we can therefore infer that the conjunctive expression ‘grandeur and majestic’ is also type \(<e, t>\). The adverb shifen ‘very’ is a higher-order predicate that quantifies over the conjunctive expression ‘grandeur and majestic’. Also, sentence (141) will turn out to be ungrammatical, if the adverb nayang ‘so’ is deleted. Given this, he conjoins two predicates, namely, mingque ‘accurate’ and jouli ‘powerful’ rather than arguments. Likewise, in (142) the adverb hai ‘again’ is obligatory because it is the higher-order predicate that takes two arguments conjoined by ergie: shuoming ‘explain’ and buchong ‘supplement’. However, one may question the proposal by providing the following sentences:

*I know that Zhangsan likes apples, and Lisi likes bananas.*

‘I know that Zhangsan likes apples, and Lisi likes bananas.’

Ta yesterday and today all come look-after me
‘He comes to see me today and yesterday.’

(145) Zhe ding maozi he na jian yifu, ni *(zhi) neng xuan
This-CL hat and that-CL clothes you only can choose
qizhong yi yang.
one one-item

‘This hat and that clothes, you can only choose one of them.’

Simply put, in (143) two clauses conjoined by he are arguments of the verb zhidao ‘know’, yet the sentence is ungrammatical because he can only conjoin phrases rather than clauses. Besides, contrary to our predication, two conjuncts conjoined by he are not arguments, but sentences (143) and (144) are still grammatical. In (143) the conjuncts conjoined by he, zuotian ‘yesterday’ and jintian ‘today’, are adjuncts, while in (144) zhe ding maozi ‘this hat’ and na jian yifu ‘that clothes’ are topics. Though two conjuncts conjoined by he are not arguments, it is noticeable that adverbs, such as dou ‘all’ and zhi ‘only’ are obligatory. We argue that problems concerning (143) and (144) should not be exclusively attributed to the semantic nature of he, and require further study of characteristics of theses adverbs.42

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42 Thanks for Jo-Wang Lin for pointing out this.
Chapter 6

Conclusion

This thesis deals with two topics: (I) an adverb ye; (II) two coordinators erqie ‘and’ and he ‘and’, which conjoin different types of conjuncts. We first argue that syntactically ye behaves as an adverb in the coordinated construction; semantically ye presupposes that there is at least one contextually salient expression P that is distinct from the sentence with ye is true (cf. Rooth (1985, 1992, 1997), Rullmann (2003), Tsai (2004)). This analysis helps us to represent the semantic nature of ye formally; provides explanations for the characteristics of ye (cf. Lu (1980), Ma (1982), Shen (1983)).

Second, we argue that the interpretation of ‘furthermore’ conveyed by erqie derives from the presupposition of erqie (cf. Lu (1980)). That is, erqie presupposes informativeness and requires its conjuncts to be the same polar (cf. BarHillel and Carna (1952), Popper (1959)). The notion of informativeness can be defined by two strategies: one is to narrow down the set of possible worlds in which the sentence is true; the other is to dominate all of the set of possible worlds in which the sentence is true.
Crosslinguistically, the English counterpart of ye is *too/also* that presupposes an alternative set. Yet, the usages of *ergie* are not equivalent to those of *and*.

Finally, we propose that *he* conjoin arguments of either first-order predicate or higher-order predicate, instead of conjoining nominal expressions (cf. Reichenbach (1947), Chao (1968), Tseng (1997)).
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