A Corpus-based Comparatively Study on the Semantic Features and Syntactic patterns of Yòu/Hái in Mandarin Chinese

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Abstract

This study points out that You (又) and Hái (还) have their own prominent semantic features and syntactic patterns compared with each other. The differences reflect in the combination with verbs¹. Hái (还) has absolute superiority in collocation with V+Bu $(\overline{\Lambda})$ +V, which tends to express [durative]. You (X) has advantages in collocations with V+Le (\vec{J}) +V and derogatory verbs. Yòu (\mathbf{X}) +V+Le (\mathbf{J}) +V tends to express [repetition], and You (X)+derogatory verbs tends to express [repetition, derogatory]. We also find that the two words represent different semantic features when they match with grammatical aspect markers Le (了), Zhe (着) and Guo (过). Different distributions have a close relation with their semantic features. This study is based on the investigation of the large-scale corpus and data statistics, applying methods of corpus linguistics, computational linguistics and semantic background model, etc. We also described and explained the language facts.

1 Introduction

The adverbs You (\overline{X}) and Hái (\overline{X}) in Mandarin Chinese have a couple of meanings and usages respectively. For example, Lv Shuxiang (1983) Eight hundred words in Modern Chinese pointed out four kinds of moods and 13 kinds of semantic

¹ Including verb grammatical structures in a general sense.

items of Hái (还), about three kinds of semantic items and two kinds of moods of Yòu (\mathbf{X}) , such as [accumulation], [successive], and strengthen the negative mood, etc. Both of the two adverbs can be used to represent repetitive actions, the difference is that Hái (还) expresses imperfective actions and You (\mathbf{X}) expresses perfective actions. There has been abundant literature in studying the semantic features in linguistic field. To name a few, Hái (还) indicates [continuous] and Zài (再) expresses [repetition] (Jiang Qi and Jin Lixin, 1997). Ma Zhen (1999) differentiated the repetition semantic between You (又), Zài (再) and Hái (还), Ma Zhen (2001) described the usage of You (\mathbf{X}) from a semantic background view, and she emphasized that it is essential to explain clearly the semantic background of every lexical or syntactic item that is taught. Gao (2002) studied the basic meaning of Hái (还) from a cognitive perspective. Zhang Yis (2004) regarded You (χ) and Hái (\mathfrak{K}) as time adverbs. According to Chen (1993), Yòu (又) emphasizes the [connection] from a perspective of discourse analysis, Hái (还) emphasizes different points in a sentence. Other scholars such as Chu (1983), Shi Xirao (1996), Shen (2001), Shi Jinsheng (2005), etc. Some researches above has indicated that adverbs Yòu (又), Hái (还) are easy to confuse under certain circumstances. Lots of scholars also summarized and compared their semantic features and syntactic behaviors. including their similarities and differences. But most of the studies applied introspective methods,

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which is subjective to a certain extent. Thus, some important issues have not arrived at any agreement yet.

These two adverbs can be used to represent complicated semantics, in which some semantics have a close contact. We think it is necessary to find out the prominent characteristic of each word, and then we can make comparative analysis effectively. This study applies the method of corpus linguistics and computational linguistics, combines with the comparison methods of function words and semantic background model, to verify with syntactic behaviors. Based on the statistics of a large number of language facts, we draw some conclusions which are supported by the data, and we also analyze the specific facts. Firstly, from calculating the collocation frequency with verbs, we get their own prominent semantic and syntactic features of each word. According to the analyses of the data, we found that: 1) Hái (还) tends to express [durative] and has superiority in collocation with V+Bu(不)+V. 2) Yòu (又) has obvious advantages in collocating with V+Le $(\vec{J})+V$ and derogatory verbs. Pattern Yòu $(\mathbb{Z})+V+Le(\mathbb{Z})+V$ means [repetition], You $(\mathbb{Z})+$ derogatory verb means [repetition, derogatory]. In addition, the paper also studied the collocations with grammatical aspect markers Le (了), Zhe (着) and Guo (过). You (又) is more easy to collocate with Le (\mathcal{T}) , Hái (\mathbb{K}) has obvious advantages in matching Zhe (着) and Guo (过). Different collocations show different semantic features. The study also shows that it is the semantic features of the adverbs that cause the different choices of collocation with the aspect markers. This study is beneficial to the study of aspect functions of time adverbs and language learning to a certain extent.

Corpus resources: BCC2 and DCC3. BCC is a large-scale comprehensive corpus, which contains microblog, science and technology, literature, the press, 15 billion words in total. DCC only contains newspaper corpora. Being the important part of written language, DCC will not make grammatical

mistakes. We selected 15 newspaper corpora, 8 billion words in total.

2 Collocations with Verbs and Semantic Features

2.1 Collocation Data

From observing the corpus, it is found that these two adverbs can occur with different syntactic patterns. Hái (还) tends to modify "vbv", such as "Ni Hai Ji Bu Ji De wo" (你还记不记得我) [Do you still remember me], Zuo Bu Zuo Zhen (坐不 坐诊) [be in clinic or not], Kao Bu Kao Shi (考不 考试) [take an exam or not]. Yòu (又) tends to modify "vlv" and derogatory verbs, such as Ta Yòu Deng Le Deng (他等了等) [He waited a while again], Yòu Qiao Le Qiao (又敲了敲) [somebody knocked again], Ta You Tong Lou Zi (他又捅娄子) [He got into trouble again].

Table 1 below shows the frequency distributions and proportional distribution of Hái (\mathbb{X}) and Yòu (\mathbb{X}) in corpus.

	vbv	vlv	derogatory v		
	freq	freq	freq		
Hái	131	31	1346		
Yòu	5	203	4445		
total	136	234	5791		

Table 1: The corpus distribution of Hái and Yòu

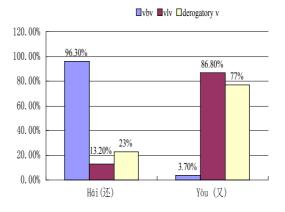


Figure 1: Proportional Distributions

² BCC (http://bcc.blcu.edu.cn/) was developed by Institute of Big Data and Educational Technology, Beijing Language and Culture University.

³ DCC (http://dcc.blcu.edu.cn/) was developed by National Language Resources Monitoring & Research Center, Beijing Language and Culture University.

syntactic patterns	freq syntactic		freq
		patterns	
还/d记不记得	40	又/d 能	5
还/d 需不需要	18	不能/vbv	
还/d值不值得	12		
还/d愿不愿意	10		
还/d应不应该	8		

Table 2-4 includes top five syntactic patterns collocations of Hái $(\overline{\mathbb{X}})$ and Yòu $(\overline{\mathbb{X}})$. Data from high to low arrangement.

Table 2: Hái/Yòu+vbv

syntactic	freq	syntactic	freq
patterns		patterns	
又/d 缺乏/v	389	还/d 涉嫌/v	273
又/d 遭遇/v	366	还/d乱/v	258
又/d 遭受/v	287	还/d 导致/v	231
又/d 遭到/v	235	还/d 威胁/v	152
又/d 涉嫌/v	230	还/d 遭到/v	130

Table 3: Hái (还)/Yòu (又)+derogatory verbs

syntactic	freq	syntactic	freq
patterns		patterns	
又/d看了看	74	还/d 拍了拍	7
又/d指了指	26	还/d看了看	6
又/d 想了想	20	还/d 指了指	4
又/d摇了摇	14	还/d 摸了摸	3
又/d摸了摸	11	还/d挥了挥	1

Table 4: Hái/Yòu+vlv

By analyzing the collocation and the data, we found that the two words present a very different distribution. As shown above, Hái (\mathbb{K}) collocates frequently with "vbv". There are two kind of forms assume superiority in collocation with Yòu (\mathbb{X}), one form is "vlv", another is the derogatory verbs. We also found that the different syntax patterns carry different semantic features.

Table 5 below are the corresponding semantic features distributions of Hái (5) and Yòu (7). Both of the two words can express [additional], and also have their own prominent features.

	Hái (Ì	歪)	Yòu	(又)			
vbv	durative		additi	additional			
	freq	%	freq		%		
	131	100	5		100		
vlv	additional		repeti	tion	additi	onal	
	freq	%	freq	%	freq	%	
	31	100	193	95	10	5	
derog-	additi	onal	repeti	tion,	derogat	tory	
atory v	freq	%	freq		%		
	1346	100	4445		100		

Table 5: The semantic distributions of Hái and Yòu From Table 5, we can see that all of the patterns Hái (K)+vbv 100% indicate [durative]. Both of the patterns Hái (\oiint{K})+vlv and Hái (\oiint{K})+derogatory verbs 100% indicate [additional].

Yòu (\mathbb{X}) +vbv 100% expresses [additional], but only 5% of Yòu +vlv expresses [additional], 95% of Yòu (\mathbb{X}) +vlv represents [repetition]. Yòu (\mathbb{X}) +derogatory verbs 100% represents [repetition, derogatory].

Tong Xiaoe (2002) pointed out eight kinds of semantic items of Hái ($\underline{\mathcal{K}}$). The 2nd item is that Hái ($\underline{\mathcal{K}}$) can be used to represent that something stays or keeps the same and original state. One of the syntactic patterns is Hái ($\underline{\mathcal{K}}$)+vbv.

In this study we sum up this kind of semantic feature of Hái ($\overleftarrow{\Sigma}$) as [durative]. In table 2, [durative] is the prominent semantic feature of Hái ($\overleftarrow{\Sigma}$) compared with Yòu ($\overline{\chi}$).

As we all know, in modern Chinese, Le (了) particle indicates that the completed action occurred in the past. In this type of sentence construction, and Le (了) can be marked for the perfective aspect according to previous studies. For instance, Wo Kan Le Kan (我看了看) [I just saw it for a while], Tui Le Tui (推了推) [gave a push]. Both of the two examples are completed actions in the past.

In table 5, the prominent semantic feature of Yòu (X) is completely different from Hái (\mathbb{K}) . Yòu (X) has its own prominent meaning--[repetition], and expresses a derogatory sense when modifying a derogatory verb. The sentence including Yòu (X) expresses something that is not looking forward to

according to Chu (1983:58), so from pattern Yòu (χ)+derogatory verbs, we find the reason for Chu's study.

2.2 Description and Explanation

So far, we have verified the different semantic features and syntactic patterns between Hái $(\underline{\mathbb{K}})$ and Yòu $(\overline{\mathbb{X}})$ by way of the data analyses and the corpus. Below are adequate descriptions. All the examples the study collected blow are from BCC. In order to save space, we won't indicate the corpus source.

[durative]: Hái (还) + V + Bu (不) + V

- Bu Zhi Dao Ni Hai Ji Bu Ji De Wo (不知道你还记不记得我)[I don't know if you still remember me.]
- (2) Jia Ru Xia Yu, Wo Men Hai Qu Bu Qu Shi Chang? (假如下雨,我们还去不去市场) [Supposing it rains, will we still go to the market?]

Hái (还) above means "still", "as before" in English. "Ji Bu Ji De" (记不记得) means "Shi Fou Ji De" (是否记得)[remember or not]. As for Tong Xiaoe (2002), the syntactic pattern Hái (还) +v + bu(不) + vp implies a former item. In sentence (1), [Ni Hai Ji Bu Ji De (你还记不记得)] implies the former semantic background--{Ni Yi Qian Ji De Wo (你以前记得我) [You remembered me before]}.

[additional]: Hái (还) + V + Le(了) + V

- (3) Di San Tian, Wo He Ba Ba Gao Bie, Ba Ba Shuo Le Xie Gu Li Wo De Hua, Hai Pai Le Pai Wo De Jian Bang, Jiu Wang Che Zhan Zou Qu Le. (第三天我和爸爸告别,爸爸说 了些鼓励我的话,还拍了拍我的肩膀,就 往车站走去了)[On the third day, I said goodbye to my father. My father encouraged me, and patted my shoulder, then he went to the station.]
- (4) Li Wei Dong Yu Men De Zheng Le Zheng Li Mao, Hai Mo Le Mo Jia Hu Zi(李卫东郁闷地 正了正礼帽,还摸了摸假胡子)[Li Wei Dong tidied his hat depressingly, and check false beard].

"Hái (还)" in sentence (3), (4) means "additional", "and". Before "Hai Pai Le Pai Wo De Jian Bang (还拍了拍我的肩膀) [and patted my shoulder]", Ba Ba Shuo Le Xie Gu Li Wo De Hua (爸爸说了 些鼓励我的话) [My father encouraged me]. In sentence (4), "Li Wei Dong De Zheng Le Zheng Li Mao, Hai Mo Le Mo Jia Hu Zi (李卫东正了正礼帽还摸了摸胡子) [Li Wei Dong tidied his hat, and check false beard]" express that "besides tiding his hat, Li Wei Dong also checking his false beard".

[additional]: Hái (还) + Derogatory Verbs

(5) Ta De Tong Nian Bu Jin Jing Li Guo Che Huo, Ta Suo Zai Jia Xian Hai Zao Yu Di Zheng.(他的童年不仅经历过车祸,他所在 家乡还遭遇地震)[In his childhood, he lived through an automobile accident, otherwise, his hometown encountered earthquake.]

In sentence (5), "Zao Yu (遭遇) [encounter]" is a derogatory verb, which expresses derogatory sense. Hái (还) means "in addition to". The whole sentence represents his unfortunate childhood.

[repetition]: Yòu (又)+Le (了) +V

(6) Ta You Qiao Le Qiao Men, Deng Le Yi Huier, Ke Hai Shi Mei Ren Kai Men. (他又敲了敲 门,等了一会儿,可还是没人开门) [He knocked again and waited, but nobody op ened the door].

Yòu(又) expresses "repetition", means "again" in example (6). Ta Yòu Qiao Le Qiao (他又敲了 敲)[He knocked again] is an completed action.

[repetition,derogatory]: Yòu (${\ensuremath{\overline{X}}}$)+derogatory verbs

- (7) Ta Er zi Zai Xue Xiao You Tong Lou Zi Le. (他儿子在学校又捅娄子了) [His son got into trouble again in school].
- (8) Ru Gou Wo Men Zhe Yang Zuo, Qing Bie You Zhe Guai Guai Wo Men. (如果我们这样 做,请别又责怪我们) [If we do like this, don't blame us again].

Yòu modifies derogatory verbs in the examples above. Eg(7) and (8), You Tong Lou Zi Le. (又捅 娄子了) [got into trouble again], You Zhe Guai Guai (别又责怪我们) [don't blame us again] mean "Zai Yi Ci (再一次)[once again]". Eg (7) is used for the past tense. Eg (8) is a negative sentence with Bie (别) [don't], which is not a completed action.

[additional]: You $(X) + V + Bu(\overline{A}) + V$

(9) Hai Zi De Tong Nian Zhi You Yi Ci, Ni Yao Hai Zi De Hui Yi Li Zuo Shen Mo Meng, You Neng Bu Neng Bao Zheng Ta Men Jiang Lai De Ri Zi Quan Shi Fan Hua Si Jin Ne. (孩子的童年只有一次,如何保证一个快 乐的童年,又能不能保证他们将来的日子 全是繁花似锦呢)[Childhood is only once, how to promise an happy childhood, and how can you promise them a prosperous future].

Eg (9) expresses "In addition to promising an happy childhood, you have to think about how to promise children a prosperous". You (X) here means [additional], not "again".

[additional] : "Yòu (X)+ V + Le (\vec{j}) + V"

(10) Ling Dao Jian Le Lan Tang Shen Shi Huan Xi, Dang Xia Jiu An Pai Gong Zuo, You Wen Le Wen Ta De Jia Ting Sheng Huo Qing Kuang (领导见了蓝塘甚是欢喜,当下就安排工 作,又问了问她的家庭生活情况) [The leader was so happy when he met Lan Tang, arranged work for her right away, and consulted her family life].

In sentence (10), the semantic background of "You Wen Le Wen Ta De Jia Ting Sheng Huo Qing Kuang (又问了问她的家庭生活情况)[and the leader consulted her family life]" is "the leader was happy", then "the leader arranged work for". You (又) means [additional] here. You (又) can be replaced by Hái (还).

To sum up, we draw the conclusion that each one of the two adverbs has its own prominent characteristic in semantic and syntactic compared with each other. The prominent semantic features and syntactic patterns of Hái ($\overline{\mathbb{X}}$) and Yòu ($\overline{\mathbb{X}}$) are as follows: Yòu has obvious advantages in matching v+Le ($\overline{\mathcal{J}}$) +v and derogatory verbs. The prominent semantic feature of Yòu ($\overline{\mathbb{X}}$) is [repetition]. Hái ($\overline{\mathbb{X}}$) has absolute superiority in collocation with v+ Bu($\overline{\mathcal{T}}$) + v, the prominent of Hái ($\overline{\mathbb{X}}$) is [durative].

3 Collocation with Aspect Markers and Corresponding Semantic Features

3.1 Collocation Data with Le, Zhe and Guo

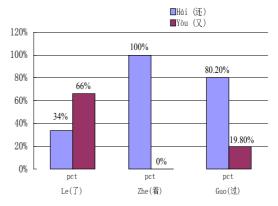
According to Gong Qianyan (1994) and Ma Qingzhu(2004), time adverbs can represent abundant aspect and tense systems in Mandarin Chinese. The syntax pattern of aspect system in Mandarin Chinese is {Adverbs+V+Dynamic Auxiliary}. So adverbs have important aspectual functions. As grammatical aspect markers , there

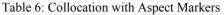
are a series of detailed linguistic analyses on Le (了), Zhe (着) and Guo (过).

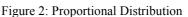
The particle Le (\vec{j}) is generally considered a perfective marker, Guo (过) is considered as experiential aspect (Xiao and McEnery, 2004), and perfective aspect according to Chen Qianrui (2003). Zhe (着) is considered as the progressive aspect according to Chen Oianrui (2003).and durative aspect according to Xiao and McEnery(2004).

Through the statistical analysis in BCC, we found the regular collocations with grammatical aspect markers Le (了), Zhe (着) and Guo (过) between Yòu (又) and Hái (还).

	Le	Zhe	Guo
	freq	freq	freq
Hái	382395	70056	21660
Yòu	742970	0	5332
Total	1125365	70056	26992







From Table 6, in the case of Le (了), we can see You (又)+Le (了) occupies the largest number, 742970 in total. That because You (又) shows its own semantic feature [repetition], which is compatible with Le (了). For Zhe (着), obviously, only Hái (还) dominates the collocation.

From an overall perspective, we can see the different collocations with the grammatical aspect markers. Le (了) occupies the highest percentage with each adverb. Zhe (着) is inclined to match Hái (还), that is because Zhe (着) is a durative aspect

and [durative] is the exclusive feature of Hái (还). Due the semantic compatibility to of grammatically adjacent words, Hái (还) and Zhe (着) are compatible. The adverbs have different meanings when they collocate with aspect markers. From table 7 below, we can see that Hái (还)100% expresses [additional] when collocating with Le (\mathcal{T}) and Guo (过), which means "Er Qie (而且) [and]" and "Shen Zhi (甚至) [even] "; Yòu (又) 80% expresses [additional] collocating with Guo (过), 36% expresses [additional] and 64% expresses [repetition] when collocating with Le (\mathbf{J}) .

	Hái (还)		Yòu (又)				
le	additional		additic	additional		repetition	
	num	%	num	%	num	%	
	382395	100	2674	36	475501	64	
			69				
zhe	durative		-				
	num	%	num		%		
	70056	100	0		0		
guo	additional		additic	onal	repetitio	n	
	num	%	num	%	num	%	
	21660	100	4284	80	1048	20	

Table 7: Semantic Features Distribution Collocation with Aspect Markers

Both Le (了) and Guo (过) indicate completed events or actions. When collocating with Zhe (着), Hái (还)100% shows [durative]. Because Hái (还) is compatible with durative aspect Zhe (着). We will explain it adequately combining with example sentences below.

3.2 Description and Explanation

In chapter 3.1 we have list the collocations and semantic distributions with aspect markers Le (\mathcal{J}) , Zhe $(\hat{\mathbb{T}})$ and Guo $(\dot{\mathbb{T}})$ based on the data analyses and the corpus. Below are adequate descriptions and explanations. All the examples blow are from BCC. We will show the corresponding semantic features of every syntactic pattern.

[additional]: Hái (还) + V + Le (了)/Guo (过)

(11) Wo Gang Cai Shui Zhao Le, Hai Zuo Le Yi Ge Tian Mi De Meng. (我刚才睡着了,还做了一 个甜蜜的梦) [I fell asleep just now and had a sweet dream]

- (12) Zhong Guo Xin Li Xue Bao Yi Ti Chang Ke Xue De Xin Li Xue Wei Zong Zhi, Nei Rong Yi Kan Deng Shi Yan Bao Gao Wei Zhu, Ci Wai Hai Kai Pi Le Xue Shu Tao Lu, Shu Bao Jie Shao, Xin Wen Bao Dao Deng Zhuan Lan. (《中国心 理学报》以提倡科学的心理学为宗旨,内容 以刊登实验报告为主,此外还开辟了学术讨 论,书报介绍,新闻报道等专栏) [The Chinese Journal of Psychology aims to promote science, the content is given priority to with published experimental report. In addition, it also develops the academic discussion, books and newspapers as news column].
- (13) Chu Li Yue Re Nei Lu Zhi Wai, Wo Hai Fan Wen Guo Ba Xi Di Yi Da Chen Shi Shen Bao Luo He Wei Yu Ya Ma Xun He Pan De Re Dai Yu Lin Chen Shi Ma Nao Si. (除里约热内卢之外,我还访问过巴西第一大城圣保罗和位于亚马孙河畔的热带雨林城市马瑙斯) [In addition to Rio DE Janeiro,Brazil, and I also visited Sao Paulo, the first city of Brazil, and Manaus located in the tropical forests of the amazon river].
- (14) Zhong Guo De Nan Fan Ren He Bei Fang Ren Wo Dou Yan Jiu Guo, Wo Hai Zuo Guo Lei Si De Bao Gao Gei Ri Ben Zheng Fu.(中国的南方 人和北方人我都研究过,我还做过类似的报 告给日本政府) [I studied People both from the south and the north of China, and I also made some similar reports for the Japanese government].

Sentence (11) means that Wo Bu Jin Shui Zhao Le, Er Qie Zuo Meng Le (我不仅睡着了,而且做梦了) [I not only fall asleep, but also had a dream]. Sentence (12) means that Hai Kai Pi Le Xue Shu Tao Lu, Shu Bao Jie Shao, Xin Wen Bao Dao (还开辟了学术讨 论、书报介绍、新闻报道等专栏) [it also develops the academic discussion, books and newspapers as news column] are based on Kan Deng Shi Yan Bao Gao (刊登实验报告) [to publish experimental report], the latter is the semantic background of the form. And Hái (还) continuous use with "Ci Wai (此外)[in addition]". Sentence (13), (14) is the same with (11) and (12). Hái (还) in eg (11), (12), (13), (14) express [additional].

[durative]: Hái (还) + V + Zhe (着)

(15) Dan You Yu Shou Ge Fang Mian Tiao Jian De Xian Zhi, Liang Di Min Jian Mao Yi Hai Cun

Zai Zhe Yi Xie Wen Ti (但由于受各方面条件 的限制,两地民间贸易也还存在着一些问题) [But due to the restriction from various aspects, there still exists some problems between the private trade].

(16) Zhe Xie Dai Dai Xiang Chuan De Xi Su You Lai Yi Jiu. Gao Yuan Shang De Min Zu Chang Chang Chi Zhe Lei Si Ou Zhou Ren Zuo De Pi Sa Bin, Tong Shi Ta Men Hai Yi Zhi Bao Chi Zhe Yi Zhong Dui Niu De Chuan Tong Chong Bai (这些代代相传的习俗由来已久。高原上 的民族常常吃着类似欧洲人做的比萨饼,同 时他们还一直保持着一种对牛的传统崇拜) [This custom has a long history carried on from generation generation. to The tribes on the plateau often eats pizza like Europeans did, at the same time they also still keep a kind of traditional worship to the cow].

Hái (还) + Zhe (着) in sentence (15) and (16) expresses [durative], which means "Reng Ran (仍然) [still]", "Yi Zhi (一直) [all the time]". And in sentence (16) Hái (还) continuously uses with "Yi Zhi (一直) [all the time]". Hai Yi Zhi Bao Chi Zhe Yi Zhong Dui Niu De Chuan Tong Chong Bai (还一直保持 着一种对牛的传统崇拜) [they also still kept a kind of traditional worship to the cow] equals to Yi Zhi Bao Chi Zhe (一直保持着)[kept all the time] or Hai Bao Chi Zhe (还保持着)[still kept]. Eg (15)is the same as eg (16).

[additional]: You (X) + V + Le(7)

- (17) Mei Mei Tiao Le Yi Duo Fen Hong De Xiao Hua, You Dai Le Yi Dui Qing Qiao De Er Huan (妹妹 挑了一朵粉红的小花,又戴了一对轻巧的耳 环) [The younger sister picked out a pink flower, and wore a pair of light earrings].
- (18) Zhe Shi Hou Qian Mian Cao Cong Li You Chu Xian Le Yi Ge Zhi Hui Guan. (这时候前 面草丛里又出现了一个指挥官) [At this time, in front of the grass appeared another commander]

Eg (17) means that "the younger sister wore a pair of earrings besides picking out a pink flower", not "wore again". In eg (18), from "You Chu Xian Le Yi Ge Zhi Hui Guan (又出现了一个指挥官) [appeared another commander]", we can get the semantic background "Zhi Qian Zai Cao Cong Li Chu Xian Guo Zhi Hui Guan (之前在草丛里出现 过指挥官) [There was an commander in the grass

before]", so Yòu (又) here means another Zhi Hui Guan (指挥官)[commander], which expresses [additional].

[repetition]: Yòu $(X) + V + Le(\vec{J})$

- (19) Wo Xiang Ting Ting Ta De Jian Yi, Suo Yi You Wen Le Liang Ge Guan Jian Xing De Wen Ti. (我想听听他的意见,所以又问了 两个关键性的问题) [I wanted to listen to his advice, so I asked two key questions again]
- (20) Zhong Guo Ao Yun Jian Er Zai Xi Ni You Qu De Le Li Shi Xing De Tu Po (中国奥运健儿 在悉尼又取得了历史性的突破) [The Olympic athletes of China in Sydney made a historic breakthrough again]

Eg (19) and (20) are different form eg (17) and (18). You (\mathbf{X}) here indicates Zai (\mathbf{H}) [again], which means [repetition]. Eg (19) means "I asked again", and eg (20) means "The athletes made a breakthrough once more".

[additional]: Yòu (又) + V +Guo (过)

(21) Wen Yiduo Bu Dan You Shen Hou De Zhong Guo Wen Hua Su Yang, Tong Shi You Shou Guo 19 Shi Ji Lang Man Pai Chuan Tong He Wei Mei Zhu Yi De Ying Xiang. (闻一多不 但有深厚的中国文化素养,同时又受 19世 纪浪漫派传统和唯美主义的影响) [Wen Yiduo not only has profound Chinese culture accomplishment, but also influenced by the Romanticism tradition in 19th century and the influence of aestheticism].

Different from eg (19) or (20), eg (21) doesn't express "You Yi Ci (又一次) [once more/ again]". The semantic background of "You Shou Guo Ying Xiang (又受过影响) [not only, … but also influenced by …]" is "Wen Yiduo You Shen Hou De Zhong Guo Wen Hua Su Yang (闻一多有深厚 的中国文化素养) [Wen Yiduo has profound Chinese culture accomplishment]". The whole sentence implies "Wen Yi Duo Shou Zhong Guo He Xi Fang Wen Hua De Ying Xiang. (闻一多受 中国和西方文化的影响) [Wen Yiduo influenced by the Chinese culture and western culture]". You (又) here can be replaced by Hái (还), express [additional].

[repetition]: Yòu (又) + V + Guo (过)

(22) Ta De Shang Kou You Lie Kai Guo (他的伤口又裂开过)[His body wound has cracked again].

(23) Lei Si De Yan Wu Zai Hai Sui Hou You Fa Sheng Guo Ji Ci, Dui Ying Guo Ren Chang Sheng Le Hen Da Zheng Dong. (类似的烟雾 灾害随后又发生过几次,对英国人产生了 很大震动) [Similar smoke hazard then happened a few times, which have a great shock to the British]

Yòu (又) in (22), (23) express [repetition]. Yòu (又) here is equal to You/ Zai Yi Ci (又/再一次) [once again]. Sentence (22), the semantic background of "You Lie Kai Guo (又裂开过)[cracked again]" is "Shang Kou Yi Jin Li Kai Guo (伤口已经裂开过) [the wound had cracked once]". The semantic background of "Yan Wu Zai Hai Sui Hou You Fa Sheng Guo Ji Ci (烟雾灾害又发生过几次) [smoke hazard then happened a few times]" is "Yan Wu Zai Hai Fa Sheng Guo (烟雾灾害发生 过) [the smoke hazard happened once]".

As a result, Yòu (又) and Hái (还) represent different semantic features when collocating with grammatical aspect markers Le (了), Zhe (着) and Guo (过). The different distributions of semantics and collocations have a close relation with their prominent semantic features.

4 Conclusions

This study applies the method of corpus linguistics and computational linguistics, combines with the comparison methods and semantic background model. Based on the observation of a large number of data and analyses of the language facts, we point out that You (X) and Hái (\mathcal{K}) have their own prominent semantic features and syntactic patterns compared with each other. The differences also reflect in the combination with grammatical aspect markers. The aspect functions of You (X) and Hái (\mathcal{K}) have a close relation with their semantic features.

In this study, Hái $(\overline{\Delta})$ has absolute superiority in collocation with V + Bu $(\overline{\Lambda})$ + V, which tends to express [durative]. You $(\overline{\lambda})$ tends to express [repetition] when collocating with V+ Le (\overline{J}) + V, express [repetition, derogatory] when collocating with derogatory verbs. The verbs modified by You $(\overline{\lambda})$ express a derogatory sense.

We also studied the collocation with grammatical aspect markers Le (了), Zhe (着) and Guo (过).

Because syntactic performances are to do with their prominent semantic features, Yòu (\mathbb{Z}) is more easy to collocate with Le (\mathbb{T}) . Hái (\mathbb{K}) has obvious advantages in matching Zhe (\mathbb{A}) and Guo (\mathbb{U}) . Yòu (\mathbb{Z}) +V+Le (\mathbb{T}) tends to indicate [repetition], and Hái (\mathbb{K}) +Zhe (\mathbb{A}) 100% express [durative]. This study is beneficial to the study of aspect functions of time adverbs and language learning to a certain extent. On the other hand, Chinese adverbs are more complicated than described, so we still need further study.

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