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Analysing logical meanings in Chinese: a discourse semantic perspective

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ABSTRACT

Logical meaning, which is broadly concerned with relations between clauses, has long been of interest in linguistics. In particular, accounting for logical meanings in the language of Chinese is a continuing concern. The previous studies have taken a lexicogrammatical approach and described distinct features in terms of logical meaning in Chinese, which have caused difficulties in the analysis of logical meanings in Chinese. Against this background, this study departures from the stratum/level of lexicogrammar and sets out in the discourse semantics to introduce an alternative approach in Systemic Functional Linguistics (SFL) to analysing logical meanings in Chinese. This study will use as data from Chapter One of the Chinese novel *Hong Lou Meng*, and take an initial step in providing a relatively comprehensive account of logical meanings in Chinese according to the discourse semantic system of CONNEXION. This description will explain how logical meanings in Chinese can be analysed through the dimensions of EXPLICITNESS, TYPE, and EXTERNALITY. It will also describe a distinct feature found to be relevant to the analysis through the three dimensions: indeterminacy of logical meanings in Chinese. It is hoped this approach can make some contributions to the field of discourse analysis so that analysts are equipped with useful linguistic tools in the discourse semantics when analysing logical meanings in Chinese.

1. Introduction

Logical meaning, which is broadly concerned with relations between clauses, has long been of interest in linguistics. In particular, describing logical meanings in the language of Chinese is a continuing concern, especially at the stratum/level of lexicogrammar, such as Wang (1943), Li and Thompson (1981), Halliday and Matthiessen (1999), Peng (2000), Halliday and McDonald (2004), Hu et al. (2005), Li (2007), Kim, Heffernan, and Jing (2016) and Hsu (2017), just to name a few. These studies have claimed a couple of issues on the description of logical meanings in Chinese from a lexicogrammatical perspective. A most representative issue is the ambiguous identification of logical relations in Chinese due to its distinct feature of frequent absence of explicit conjunctive elements between clauses (see more in, e.g., Kim, Heffernan, and Jing 2016; Hsu 2017). It is

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acknowledged that such distinct features have caused difficulties in the grammatical analysis of logical meanings in Chinese.

Against this background, this study departures from the stratum of lexicogrammar and sets out at the stratum of discourse semantics to introduce an alternative approach in Systemic Functional Linguistics (SFL) to analysing logical meanings in Chinese. SFL is a linguisitc theory developed by M.A.K. Halliday in the second half of the twentieth century (see, e.g., Halliday and Matthiessen 2014 for more introduction to SFL). The choice of using SFL as the theoretical framework is because a number of analytical tools and concepts in the SFL model enable us to account for language choices in a systemic way. Specifically in regard to logical meaning, it can be accounted for through the system of CONNEXION if the discourse semantic approach is adopted.

There is one article, i.e., Hao (forthcoming), describing logical meanings in Chinese scientific texts according to the system of CONNEXION in the discourse semantics. However, Hao has only touched upon temporal and causal relations without other types, or other aspects of logical meaning, such as the implicit or explicit presence of conjunctions, and Hao focuses on the genre of scientific texts. Therefore, this study will select a different genre of literary texts and put forward a relatively comprehensive description of logical meanings in Chinese according to the discourse semantic system of CONNEXION, based on the account of the system of CONNEXION in English in Martin (1992) and Hao (2015).

The data used for analysis are texts in Chapter One of a Chinese novel entitled *Hong Lou Meng (*henceforth *HLM*) (《红楼梦》), which has been widely recognised as a masterpiece of Chinese literature and a pinnacle of Chinese fiction. Written in the mid-18th century, *HLM* mainly shows many common linguistic features with Chinese *baihuawen* (白话文), less classical than ancient Chinese but more classical than contemporary Mandarin. Thus, the description of texts in *HLM* can show language characteristics in Chinese *baihuawen*. It can also help gain some insight into that of contemporary Mandarin, as Ziqing Zhu comments in the preface to Wang (1943) that "even though over 200 years have passed since the coming out of *HLM*, the grammar is almost the same as modern Mandarin with only a few changes in vocabulary". For the current study, Chapter One of the 120 chapters in *HLM* is selected as data, as it presents the origin of this story, and this one chapter provides sufficient data for the analysis.

In the following sections, I will first present a brief overview of the system of CONNEXION in Chinese, and then explain in detail how logical meanings in Chinese can be analysed through the dimensions of EXPLICITNESS, TYPE, and EXTERNALITY. After this, I will describe a distinct feature found to be relevant to the analysis through the three dimensions: indeterminacy of logical meanings in Chinese.

2. An overview of the system of CONNEXION in Chinese

The system of CONNEXION was initially proposed by J. R. Martin under the name of CONJUNCTION; it was renamed CONNEXION by Jing Hao in order to avoid the terminological confusion with the lexicogrammatical dimension of CONJUNCTION in cohesion (Hao 2015, 228). This system in the discourse semantics accounts for logical meanings/connexions used by writers/speakers to link figures. Here, a figure is a "going-
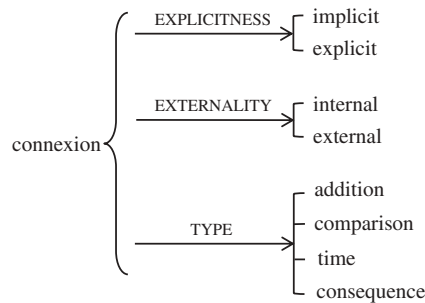
Figure 1. System of CONNEXION in Chinese.

on" in the discourse semantics; the relationship between these figures is called connexion.

The analysis of the texts in *HLM* shows that the system of CONNEXION in Chinese can be cross-classified according to dimensions of EXPLICITNESS, TYPE, and EXTERNALITY, as mapped out in Figure 1.

Before moving to the detailed description of connexions in Chinese, the approach in which connexions can be identified from texts is particularly noted, since the identification of connexions is the essential step before analysis along the three dimensions. Logical meaning as defined in the discourse semantic system of CONNEXION goes beyond the limit of lexicogrammar: it can be identified either within a clause complex or between clause complexes, both of which are seen as means for developing the logic of discourse, as Martin (1992, 163) comments:

> The point is that while examples such as these make use of resources other than the clause complex to mark logical relations between parts of a text, there is a sense in which the alternative realisations are all variations on the same theme – namely that of relating one part of a text to another in terms of the natural logic of time, cause, comparison and addition. So not only does the clause complex need to be supplemented as far as a consideration of logical relations is concerned, but it needs to be abstracted from as well so that a more general treatment can be pursued, taking the clause complex into account as just one of its manifestations. It is for this reason of course that logical relations will be interpreted from the perspective of discourse semantics, rather than that of lexicogrammar here.

For example, in either (1) or (2) below, there is a connexion between the two figures under the discourse semantic system of CONNEXION, although from the perspective of

Table 1. Example[(1)]

形体	是	个	宝物	了,
xingti	shi	ge	bao wu	le
shape	be	MEAS	precious object	ASP
'(In terms of) shape (you) are a precious object,'				
还	只	没有	实在的	好处。
hai	zhi	mei you	shizai de	haochu
but	just	NEG have	real SUB	benefit
'**but** (you) don't have real benefit.'				

Table 2. Example (2)

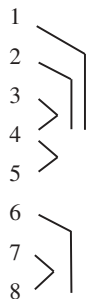| 形体	是	个	宝物	了！
xingti	shi	ge	bao wu	le
shape	be	MEAS	precious object	ASP
'(In terms of) shape (you) are a precious object!'				
还	只	没有	实在的	好处。
hai	zhi	mei you	shizai de	haochu
but	just	NEG have	real SUB	benefit
'**But** (you) don't have real benefit.'				

Figure 2. Identification of logical meanings in (3).

lexicogrammar, the two clauses in (1) are logically combined within a clause complex, while in (2) the two clauses are typically analysed not to be logically connected but rather cohesively related beyond a clause complex, as indicated by the exclamation mark between them.

In a more complex example (3) below, six connexions are identified between the eight figures according to the discourse semantic system of CONNEXION. The connexions are drawn in Figure 2, in which two straight lines are connected together to signal a connexion between figures. Note that there may be other different ways of identifying connexions in (3) due to the relative indeterminacy of connexion in Chinese. This will be discussed in Section 6 below. Figure 2 just presents one possible interpretation so as to exemplify the analysis approach under the system of CONNEXION.

3. Explicitness of connexion

Now I will describe logical meanings in Chinese through three dimensions of EXPLICITNESS, TYPE, and EXTERNALITY. This section focuses on the dimension of EXPLICITNESS. A connexion is an explicit one if it is overtly marked by a conjunctive element; if figures are logically related without any conjunctive elements, it is an implicit connexion. Conjunctive elements are not only conjunctions (e.g., 且 *qie* "and"), but also continuatives (e.g., 又 *you* "also"), conjunctive settings (e.g., 俄而 *e'er* "soon after"), or conjunctive occurrences (e.g., 使 *shi* "make"). Although aspect in Chinese, such as 了 *le* that indicates an occurrence has been completed, can also make a clue for a connexion, I analysed them as covert markers in implicit connexions.

Table 3. Example (3)

那	甄家	丫鬟		撷了		花，
na	zhen jia	yahuan		xie le		hua
that	Zhen family	maid		pick ASP		flower
'That maid of the Zhens picked the flowers,'						
方	欲	走		**时，**		
fang	yu	zou		**shi**		
just	intend	go		**when**		
'just **when** (she) intended to leave,'						
猛	抬	头				
meng	tai	tou				
sudden	raise	head				
'(she) suddenly raised (her) head'						
见	窗内	有		人，		
jian	chuang nei	you		ren		
see	window inside	have		person		
'(she) saw there was a person in the window,'						
敝巾旧服，						
bi jin jiu fu						
shabby-headscarf-old-clothes						
'(wearing) shabby and old clothes,'						
虽	是	贫窘，				
sui	shi	pinjiong				
although	be	poor				
'**although** (he) was poor,'						
然	生得	腰圆背厚，		面阔口方		
ran	sheng de	yao yuan bei hou		mian kuo kou fang		
but	be born	waist-round-back-thick		face-wide-mouth-square		
'**but** (he) had a manly physique;'						
更	兼	剑眉星眼，		直鼻权腮。		
geng	jian	jian mei xing yan		zhi bi quan sai		
also	have	sword-eyebrow-star-eye		straight-nose-round-cheek		
'(he) **also** had handsome features.'						

Table 4. Example (4)

士隐		听了，		
shiyin		ting le		
Shiyin		listen/hear ASP		
'Shiyin heard (some words),'				
知	是		疯话。	
zhi	shi		feng hua	
know	be		mad words	
'(he) knew (they) were mad words.'				

The uniqueness of this dimension in Chinese is that unlike English and some other languages, it is common to connect Chinese figures in an implicit way without any conjunctive elements. For instance, in (4) below, there is an implicit connexion, where the two figures are connected without overt conjunctive elements.

As for the explicit conjunctive markers in Chinese, some conjunctive elements are used singly, such as且 *qie* "and", 便 *bian* "then/so" and 以致 *yizhi* "so that"; while others are used together as correlative conjunctions, such as 第一件 … 第二件 *diyijian … dierjian* "in the first

Table 5. Example (5)

半夜	中，	霍启	**因**	要	小解，	
banye	zhong,	huoqi	**yin**	yao	xiaojie	
midnight	in,	Huo Qi	**because**	want	urinate	
'In the midnight, **because** Huo Qi wanted to urinate,'						
便	将	英莲	放	在	一家	门槛 上。
bian	jiang	yinglian	fang	zai	yi jia	menkan shang
so	make	Yinglian	put	at	one home	doorstep on
'**so** (he) put Yinglian on the doorstep of someone's house.'						

Table 6. Example (6)

因	地方	窄狭，		
yin	defang	zhaixia		
because	space	narrow		
'**Because** the place was narrow,'				
(便)	人	皆	呼作	葫芦庙。
(bian)	ren	jie	hu zuo	hulu miao
(so)	person	all	call as	Gourd Temple
'(so) people all called it Gourd Temple.'				

place … in the second place", 虽 … 但 *sui … dan* "although … but" and 因 … 便 *yin … bian* "because … so". In (5) below, the two conjunctive elements因 *yin* "because" and 便 *bian* "so" together mark the causal connexion between the two figures.

Although correlative conjunctions typically occur together, one or other may optionally be omitted. In (6) below, only 因 *yin* "because" appears, without the expected other correlative conjunction便*bian* "so", as in the complete pair因 … 便 *yin … bian* "because .. . so". Such cases almost do not affect the analysis of connexion in Chinese texts, because the implicit half can be easily recovered within its context in most of the data used in this study.

4. Types of connexion

Now let us move to the second dimension of TYPE. The system of CONNEXION includes four general types of connexion, namely addition, comparison, time, and consequence, each of
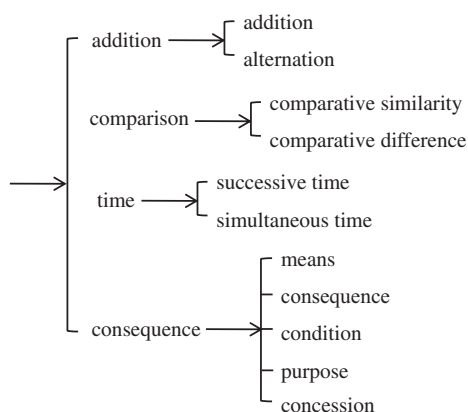

Figure 3. Types of connexion.

Table 7. Example (7)

千部	共	出	一套,			
qian bu	gong	chu	yi tao			
thousand MEAS	total	come out	one pattern			
'A thousand (books) came out (as) a single pattern,'						
且	其中	终	不能	不	涉于	淫滥
qie	qizhong	zhong	buneng	bu	she yu	yinlan
and	therein	finally	NEG can	NEG	involve at	indecency
'**and** none of them can escape from indecency'						

which can be further divided into delicate choices. These types of connexion in Chinese are mapped out in Figure 3.

4.1. Addition

In the type of addition, a figure functions to add some new experiences to another figure, in the sub-type either of addition (e.g., 且*qie* "and")[2], or that of alternation (e.g., 或 *huo* "or"). In (7) below, each of the two figures represents a feature of a book, and the experience in the second figure is simply added onto the experience in the first one. Therefore, they are connected by addition, marked by the conjunction且*qie* "and". In (8) below, one of the two figures needs to be chosen as an option. This alternative connexion is marked by the correlation conjunctions或 … 或 *huo … huo* "or … or".

4.2. Comparison

In the type of comparison, a figure is compared with another figure, in a relationship of either similarity or difference. In comparative similarity, figures are the same in some way, and a figure functions to rephrase, exemplify, generalise or specify another figure (e.g., 有若*youruo* "as if"). In comparative difference, figures are related as opposite, replacive or exceptional experiences (e.g., 而/却/但*er/que/dan* "but/while").

Table 8. Example (8)

历来	野史,	或	讪谤	君相,
lilai	ye shi,	**huo**	feibang	jun xiang
always	unofficial history,	**or**	defame	monarch minister
'Unofficial history always **either** defames monarchs and ministers,'				
或	贬	人	妻女。	
huo	bian	ren	qi nü	
or	belittle	person	wife daughter	
'**or** belittles their wives and daughters.'				

Table 9. Example (9)

忽	听	一声	霹雳,
hu	ting	yisheng	pili
sudden	hear	one MEAS	crash
'Suddenly (he) heard a crash,'			
有若	山崩地陷。		
youruo	shan beng di xian		
as if	mountain-collapse-earth-fall		
'**as if** the mountain is collapsing and the earth is falling down.'			

Table 10. Example (10)

众石	俱	得	补	天，
zhong shi	ju	de	bu	tian
all stone	all	get	repair	sky
'All stones got (the chance of) repairing the sky,'				
独	自己	无	材	
du	ziji	wu	cai	
alone	self	not have	ability	
'itself alone did not have ability'				
不	堪	入选		
bu	kan	ru xuan		
NEG	can	enter choose		
'(he) couldn't be chosen'				

In (9) below, the two figures are compared in a similar way using the conjunctive element 有若 *youruo* "as if": the sound of 霹雳 *pili* "crash" in the first figure is represented as similar to 山崩地陷 *shan beng di xian* "mountain-collapse-earth-fall" in the second figure. In (10) below, the type of the connexion between the first figure and the last two figures is comparative difference: 补天 *butian* "repair sky" in relation to 众石 *zhongshi* "all stone", and 不堪入选 *bukan ruxuan* "cannot be chosen" in relation to 独自己 *duziji* "self alone" represent two opposite situations of the two entities in the two figures.

4.3. Time

Connexions of time express temporal relations of successive time or simultaneous time. In successive time, figures take place one after another (e.g., 自 … 之后 *zi … zhihou* "since"), while

Table 11. Example (11)

此石	**自**	经	煅炼	**之后，**
ci shi	zi	jing	xialian	zhihou
this stone	**sin…**	experience	smelt	**…ce**
'**Since** this stone experienced smelting,'				
灵性	已	通		
lingxing	yi	tong		
spirituality	already	acquire		
'(it) had acquired spirituality'				

Table 12. Example (12)

方	欲	走	**时，**
fang	yu	zou	**shi**
just	intend	go	**when**
'Just **when** (she) intended to leave,'			
猛	抬	头	
meng	tai	tou	
sudden	raise	head	
'(she) suddenly raised (her) head'			
见	窗内	有 人	
jian	chuang nei	you ren	
see	window inside	have person	
'(she) saw there was a person in the window'			

in simultaneous time, figures take place at the same time (e.g., 当 … 时 *dang … shi* "when")[3]. In (11) below, the second figure takes place after the first one, and this succession is marked by the conjunctive element 自 … 之后 *zi … zhihou* "since". In (12) below, the occurrence 走 *zou* "go" in the first figure takes place simultaneously with those of 抬 *tai* "raise" and 见 *jian* "see" in the second and third figures, and this connexion of simultaneous time is marked by the conjunctive element 时 *shi* "when".

4.4. Consequence

In consequence, a figure presents the consequence of the means, consequence, purpose or condition of another figure. In the sub-type of means, a figure functions to specify by what means another figure happens. No connexions with explicit markers in the type of means have been found in the data, although it is believed that some examples could be observed if a greater amount of texts from different text types are analysed. The sub-type of consequence is concerned with the cause and result of an experience (e.g., 遂 *sui* "so"). Purpose is concerned with the intended outcomes of an experience (e.g., 来 *lai* 'in order to'[4]). Condition refers to the conditions under which an outcome can occur (e.g., 若/如果 *ruo/ruguo* "if" and 只 … 便 *zhi … bian* "as long as … then"). Alongside these four sub-types of consequence, there is another case when one figure is contrary to the expected logical development of another figure. In this case, their connexion is classified as the type of concession (e.g., 纵 *zong* "even if" and 虽 … 但 *sui … dan* "although … but").

For instance, in (13) below, the connexion is one of the means as 拄拐 *zhuguai* "lean on a crutch" in the first figure indicates the means by which the occurrence 挣挫 *zhengcuo* "struggle" in the second figure takes place. In (14) below, the first figure provides the cause for the second and third ones, and the consequential connexion is marked by the conjunction 遂 *sui* "so". In (15) below, the connexion is one of the purpose in that its second figure presents the purpose of the first figure, marked by the conjunctive element 来 *lai* "in order to". In (16) below, a connexion of condition holds between 不要忘了我二人 *buyao wang le wo erren* "do not forget us two people" in the first figure and its outcome is 可跳出火坑 *ke tiao chu huokeng* "can jump out of the fiery furnace" in the second figure, and it is marked by 只 … 便 *zhi … bian* "as long as … then". In (17) below, the type is concession: the expected outcome of 抄去 *chaoqu* "copy (the book) back" in the first figure would be that people like reading it, making 世人不爱看 *shiren bu ai kan* "people in the world do not like reading (the book)" in the second figure an outcome contrary to expectation.

Table 13. Example (13)

这日	拄了	拐，	
zheri	zhu le	guai	
this day	lean on ASP	crutch	
'Today (he) leant on a crutch,'			
挣挫	到	街	前
zhengcuo	dao	jie	qian
struggle	get to	street	front
'(he) struggled to the street'			

Table 14. Example (14)

忽	听得	窗外		有	女子	嗽声,
hu	ting de	chuangwai		you	nüzi	sou sheng
sudden	hear get	window outside		have	female	cough sound
'Suddenly (he) heard there was a woman's cough out of the window,'						
雨村	**遂**	起		身		
yucun	**sui**	qi		shen		
Yucun	**so**	rise		body		
'**so** Yucun got up'						
往	窗外	一看				
wang	chuang wai	yi kan				
toward window outside one look						
'(he) looked out of the window'						

Table 15. Example (15)

自己		步	月	至	庙中
ziji		bu	yue	zhi	miao zhong
self		walk	moon	get to	temple inside
'(He) himself walked in the moon to the temple'					
来		邀	雨村。		
lai		yao	yucun		
come/in order to		invite	Yuncun		
'**in order to** invite Yucun.'					

Table 16. Example (16)

只	不要	忘了		我		二人,
zhi	buyao	wang le		wo		liang ren
as long as	NEG	forget ASP		I		two person
'**as long as** (you) do not forget us two people,'						
便	可	跳出		火坑		矣。
bian	ke	tiao chu		huo keng		yi
then	can	jump come out		fiery furnace		ASP
'**then** (you) can jump out of the fiery furnace.'						

Table 17. Example (17)

我	纵		抄去,			
wo	zong		chao qu			
I	even if		copy go			
'**Even if** I copy it back,'						
恐	世人		不	爱	看	呢!
kong	shi ren		bu	ai	kan	ne
fear	world people		NEG	love	see	MOD
'(I am) afraid people in the world don't like reading (the book)!'						

Table 18. Example (18)

石头	听了,		
shitou	ting le,		
stone	listen/hear ASP,		

'The stone listened/heard (some words from a monk),'

喜	不	能	禁
xi	bu	neng	jin
happy	NEG	can	help

'(it) couldn't help being happy'

Table 19. Example (19)

第一件,	无	朝代	年纪	可	考;
diyijian	wu	chaodai	nianji	ke	kao
in the first place	NEG	dynasty	year	can	check

'**In the first place**, no dynasty or year can be checked;'

第二件,	无	大贤大忠	理朝廷	治风俗
dierjian	wu	da xian da zhong	li chaoting	zhi fengsu
in the second place	NEG	big-worthy-big-loyal	regulate government	govern customs
的	善政			
de	shan zheng			
SUB	good performance			

'**In the second place**, there is no good performance that worthy and loyal ministers regulated the government and governed the customs'

Table 20. Example (20)

你	这	一段	故事,	有	些	趣味,
ni	zhe	yi duan	gushi,	you	xie	quwei
you	this	one MEAS	story,	have	some	interest

'This story of yours, has some interest,'

故	编写	在	此
gu	bianxie	zai	ci
so	compile	at	here

'**so** (it is) compiled here'

Table 21. Example (21)

那僧	托	于	掌上,
na ceng	tuo	yu	zhang shang
that monk	hold	at	palm on

'That monk held it on the palm of his hand,'

笑	道
xiao	dao
smile	say

'(he) smiled and said'

4.5. Identification of the type of connexion

After introducing the 11 delicate types of connexion in Chinese, I will explain the criteria whereby the type of connexion is identified under the system of CONNEXION. This is

particularly pointed out because the frequent absence of explicit conjunctive elements is argued to make a difficulty in the identification of the type of connexion in Chinese (e.g., Kim, Heffernan, and Jing 2016), as noted in Section 1. This section will present how this discourse semantic system of CONNEXION can provide a way to address this issue.

The system of CONNEXION identifies the type of connexion mainly based on how figures are logically related in the discourse semantics, with the presence of explicit conjunctive elements as the complementary criteria. For example in (18) below, while no explicit conjunctive elements appear, type of connexion is analysed based on the semantic meaning in figures: the stone heard some words from a monk and its reaction was great happiness. That is to say, the experiences in the two figures happen successively one after the other in this context. Hence, the type of logical meaning in (18) is identified as successive time.

5. Externality of connexion

According to the dimension of EXTERNALITY, a connexion is an internal one if it is rhetorical, concerned with the organisation of the argument within the text itself, while it is an external connexion if it connects experiential activities outside the text. For instance, in (19) below, the writer organises two arguments, i.e., two features of the book, within the text itself. On the one hand, there is no record of朝代年纪 *chaodai nianji* "dynasty and year" and, on the other hand, there is no record of 善政*shanzheng* "good performance". These are rhetorical arguments based on the writer's organisation, and hence the connexion is internal.

In contrast, in (20), the figures are logically related in the outside world: the 故事*gushi* "story" 有 *you* "have" 趣味 *quwei* "interest", and this is why I 编写 *bianxie* "compile" it here. Thus, this counts as an external connexion.

6. Indeterminacy of connexion

So far I have introduced the system of CONNEXION in Chinese based on the three dimensions of EXPLICITNESS, TYPE, and EXTERNALITY. When I accounted for connexions through these dimensions, I found the analysis of connexions in Chinese is more indeterminate than that in English and some other languages. I will explain this distinct feature in this section.

The "indeterminacy" means that a number of interpretations are possible for a given connection. This feature of indeterminacy was mostly observed in terms of the type of connexion and/or the scope of connexion. The notion of the scope of connexion as defined in this study refers to the identification of which figure(s) are connected with which other figure(s), while the type of connexion refers to the different types outlined in Section 4. In this study, a connexion with a single interpretation of the scope and the type of connexion is regarded as a determinate connexion, while one with several different interpretations in either or both of these aspects is regarded as an indeterminate connexion. The following will illustrate the indeterminacy of connexion in Chinese from the two aspects.

6.1. Indeterminacy of the type of connexion

The type of connexion can be interpreted in a few different ways. When no explicit conjunctive elements are used to mark the connexion in Chinese, I have identified three main patterns of alternative interpretation: 1) addition, simultaneous time or successive time; 2) a sub-type of time or a sub-type of consequence; and 3) addition or comparative similarity.

The first pattern was observed when the temporal sequence is not clear. In other words, in some connexions, it is difficult to understand whether the figures happen successively, simultaneously or with no emphasis on the temporal sequence. In (21) below, the two figures can be interpreted as joined in a connexion of successive time, meaning that the occurrence of 托 *tuo* "hold" in the first figure happens before the occurrences of 笑*xiao* "smile" and 道*dao* "say" in the second. This can also be interpreted in this context as implying that the occurrences in the two figures happen at the same time. The third interpretation is that there is no emphasis on the temporal relationship, and the type of connexion can be addition, with the second figure adding some new meaning to that of the first figure.

The second pattern is indeterminacy between two of the four general types, namely time or consequence. In (22) below, the type of connexion can be interpreted as successive time in that the occurrence of 度脱*dutuo* "rescue" in the second figure takes places after the occurrence of 下*xia* "go down" in the first figure. The alternative interpretation is purpose, where the second figure functions as the intended outcome of the first figure.

The third pattern of addition or comparative similarity was observed in connexions in Chinese comparable to those in English where relative pronouns such as *which* and *where* are used. Since Chinese does not have the category of relative pronoun, in such cases demonstrative pronouns such as 这*zhe* "this", 那时 *nashi* "that time" and 那里*nali* "there" are often used in ways similar to relative pronouns in English, and sometimes such demonstrative pronouns are elliptical. For these reasons, scholars such as Peng (2000, 304) have argued that these demonstrative pronouns have a function identical to that of relative pronouns in English, and the type of connexion can be interpreted as comparative similarity. However, it is possible to interpret such connexions differently in cases where the pronoun as the primary entity of the latter figure refers to a single element in the former figure or alternatively to the whole experience represented by that figure.

In (23) below, according to Peng (2000)'s approach, a demonstrative pronoun 他*ta* "he" can be added in the second figure to function similarly to the English relative pronoun *who*, and the type of connexion would then be comparative similarity. Alternatively, the demonstrative pronoun他*ta* "he" can also be added to function as a reference to the entity 人*ren* "person" in the first figure rather than a marker of a connexion. If so, the two figures can be interpreted as implicitly related by addition, where the second figure simply adds some meaning to the first.

6.2. Indeterminacy of the scope of connexion

Also, the scope of connexion in Chinese is sometimes indeterminate with several possible interpretations. A particular figure can be interpreted as connected with one or more figures before it, and it is also possible to interpret it as connected with one or

Table 22. Example (22)

你我	何		不	也	去	下世
niwo	he		bu	ye	qu	xia shi
you I	why		NEG	also	go	human world

'Why don't you and I also go to the human world'

度脱	几个
dutuo	ji ge
rescue	several MEAS

'rescue several (people)'

Table 23. Example (23)

见	窗内	有 人，
jian	chuang nei	you ren
see	window inside	have person

'(She) saw there was a person in the window,'

敝巾旧服
bi jin jiu fu
shabby-headscarf-old-clothes

'(wearing) shabby and old clothes'

more figures after it. This kind of indeterminacy occurs in instances where figures are logically connected in an implicit way and/or when a number of commas are included to delimit figures before a full stop. The use of punctuation in Chinese is different from that in English and some other languages: full stops are less used and commas are more used, as some writers would like to combine a number of figures together within a full stop (e.g., Wang 1943).

In (24) below, five commas are used as boundaries between figures before a full stop, and there are only two conjunctive elements: 因 … 则 *yin … ze* "because … then" and 并 *bing* "and". The scope of connexions between the first four figures is indeterminate, with two possible interpretations, as shown in Figure 4 In the first interpretation, these four figures are connected one by one by addition, as listing four activities曹雪芹 *caoxueqin* "Xueqin Cao" has undertaken for the revision of the novel in his 悼红轩 *daohongxuan* "Mourn-Red Studio". In the second interpretation, the first figure is connected together with the following three figures by a relationship of comparative similarity, because these three figures further specify what activities took place during the 十载*shizai* "ten years" in the first figure.

The above has presented several examples of indeterminacy of connexion in terms of the identification of the type and/or scope. However, it should be noted that
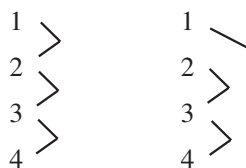

Figure 4. Possible interpretations 1 and 2 of the scope of connexion in (24).

Table 24. Example (24)

因 **yin** **because**	曹雪芹 caoxueqin Cao Xueqin	于 yu at	悼红轩 dao hong xuan Mourn Red Studio	中，披阅 zhong piyue inside read over	十载， shi zai ten year
'Because Cao Xueqin read over (the book) for ten years in his Mourn-Red Studio,'

增 zeng add	删 shan delete	五次， wu ci five time
'(he) added and deleted (the content of the book) for five times,'

纂成 zuan cheng compile become	目录， mulu contents
'(he) compiled the contents,'

分出 fen chu divide produce	章回， zhanghui chapter
'(he) divided (the book) into chapters,'

则 **ze** **then**	题曰 ti yue title say	《金陵十二钗》， jinlingshierchai *Jinling Twelve Beauties*
'**then** (he) named it Twelve Beauties of Jinling,'

并 **bing** **and**	题 ti write	一绝。 yi jue one verse
'**and** (he) wrote a verse.'

indeterminacy of connexion is not a common phenomenon is Chinese, although more common than in English and some other languages. In the Chinese texts selected as data, the majority of the connexions are determinate ones in spite of the common implicitness of connexion and the frequent use of commas in Chinese. This is because the interpretation of a certain connexion is on the basis of its specific context, which often limits the interpretation of connexion to only one choice.

For instance, in either of two possible interpretations of (24) shown above, the second figure, the third figure and the fourth figure have been interpreted as logically connected one by one by addition, although they are part of a series of figures connected almost implicitly and simply delimited by commas. This can be explained from the context: the three figures are added one by one to list three activities Xueqin Cao has undertaken in the revision of the novel, and so they are analysed as connected by addition rather than any other type of connexion.

To sum up, while indeterminacy of connexion is a more distinctive feature of Chinese, its impact on the understanding of connexion in Chinese is limited due to the disambiguation by the context in which the connexion is embedded. Hence, it is not seen as a serious obstacle for the analysis of logical meanings in Chinese.

7. Conclusion

This study has put forward an alternative approach from the perspective of discourse semantics for analysing logical meanings in Chinese. To be specific, it has taken an initial step in providing a relatively comprehensive account of logical meanings in

Chinese according to the discourse semantic system of CONNEXION. I have used texts from Chapter One of *HLM* as the data, and described logical meanings in Chinese through the dimensions of EXPLICITNESS, TYPE, and EXTERNALITY under the system of CONNEXION (see from Section 2 to Section 5 above). Also, I have presented a detailed introduction to a distinct feature of indeterminacy in terms of logical meanings in Chinese (see Section 6 above).

As a demonstration of this linguistic approach, I have adopted it to analyse source texts and target texts in the investigation of translation choices for logical meanings from Chinese into English (see more in Li 2019). It is hoped that other researchers who conduct discourse analysis in their studies can be more aware of this approach so that they are equipped with useful linguistic tools in the discourse semantics when analysing logical meanings in Chinese.

Notes

1. Chinese examples in this study are glossed with pinyin (without marking for tones), word-to-word translation and the translation of each figure. As to set phrases/idioms in Chinese, word-to-word translations are provided for each Chinese character, and they are linked by hyphens.
2. Some typical conjunctive elements found in the data for marking types of connexion are provided in parenthesis.
3. Chinese characters such as 时 *shi* "time" and 后 *hou* "afterwards" are nouns, and thus strictly speaking, conjunctive elements of 自 … 之后*zi … zhihou* and 当 … 时*dang … shi* should be, respectively, glossed as "since … afterwards" and "at … time". In this study, considering they function similarly to prepositions in English, they are simply glossed as *when* and *after* in the word-to-word translation.
4. The Chinese character来 *lai* is translated as "come" in most contexts. However, it can also function as a conjunctive element marking a purposive connexion in Chinese.

Acknowledgments

Disclosure statement

Notes on contributor

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