THE INGREDIENTS OF

COUNTERFACTUALITY IN

MANDARIN CHINESE

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IN MANDARIN CHINESE

by

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Abstract

This dissertation studies the realization of conditional counterfactual meaning in Mandarin Chinese. It first identifies lexical items and syntactic expressions that contribute, explicitly or implicitly, to the formation of counterfactual meaning (such expressions being termed "counterfactual ingredients" in this work). It then provides semantic and pragmatic analysis to the role played by each ingredient in the realization of counterfactuality. Based on the analyses of these ingredients, the dissertation finally attempts to give a global semantic-pragmatic account of the process of counterfactual interpretation. Our purpose here is to prove that in Chinese, there are indeed linguistic components that can result in counterfactuality, but they only constitute part of the counterfactuality generating system, which can construct other counterfactual meanings, in some cases via accessing multiple layers of contexts.

Some major Chinese counterfactual ingredients examined here include temporal elements, hypothetical conjunctions, negators, rhetorical questions, personal pronouns and counterfactual enhancers. It is claimed that unlike the seemingly complicated manifestations, which appear to be assorted and scattered in grammatical or lexical realizations, counterfactual ingredients fall into two categories, those which contribute to factual meaning and those which contribute to negation:

FACTUAL	temporal expressions, personal pronouns, rhetorical questions, counterfactual enchancers
NEGATION	negators

Counterfactuality in Chinese can be achieved mainly through time-distancing and negation. Some temporal expressions, such as *zao*(早) and *le*(了), are used to create a time-distancing effect, projecting an imagined event time E that is removed from the real event time. E is only vaguely projected, i.e. being unspecific in time. Negating the

current and factual can transport language users to a different possible world: a world as similar to the actual world as possible, with one exceptional difference introduced by the protasis.

Another interesting finding we have made during the process of the research is that although counterfactual conditionals are well accepted as a typical example of irrealis, some of the ingredients that are studied here, such as temporal expressions and negators (*bushi*（不是） and *meiyou*（沒有）, which are more frequently used than *bu*（不）) are always applied to realis occasions. It can be concluded that counterfactual in Chinese is an example of realization of irrealis through partial realis representations.

Based on the analysis of individual counterfactual ingredients, we reach an overall account of counterfactuality in Chinese conditional sentences. We argue that the interpretation of a counterfactual conditional may be established via accessing three layers of contexts. A local context is formed when one or several of the counterfactual ingredients are exploited in a conditional sentence. The second layer of context is what we call compound sentence context, which refers to the interpretation of the protasis and the apodosis. It is argued in the dissertation that it is the counterfactual ingredients in the protasis, rather than those in the apodosis, which play a dominant role in deciding the reading of a conditional sentence. Finally a macro context, or discourse context. It could be the information provided by the previous content, or general knowledge, or even observable features about the immediate physical environment on the spot or about the interlocutors. These three contexts interact with one another.

The advantage of developing such an account of the counterfactual conditionals and their intuitive truth-condition lies in mainly two aspects. First, counterfactual ingredients are no longer trivial and some of them which were once taken as redundant can be successfully categorized either to be a factive element or a negation element, and thus can all be incorporated into the system of counterfactual interpretation. Second, based on

the indexical analysis of the protasis and the apodosis, we can even prove that the

counterfactual fallacies are not fallacies at all, if the context remains the same.

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Table of Contents

List of abbreviations:

ASP	aspect marker
BA	marker of *ba* construction
BEI	passive marker *bei*
CL	classifier
DE	pre-nominal modification marker or postverbal resultative marker *de*
GUO	experiential aspect marker *guo*
EMP	emphatic particle
EXP	experiential aspect marker
JIANG	marker of *jiang* construction
LE	perfective marker
NEG	negative morpheme
PERF	perfective aspect marker
PROG	progressive aspect marker
PRT	particle
RES	resultative complement
ZHE	progressive aspect marker *zhe*
*	ungrammatical structure
1S	first person singular pronoun
1PL	first person plural pronoun
2S	second person singular pronoun
2PL	second person plural pronoun
3S	third person singular pronoun
3PL	third person plural pronoun

CHAPTER ONE INTRODUCTION

A major difference between human language and animal communication is that human language is able to produce new messages. This ability of creativity stems from the fact that human language is abundant with abstract conceptual ideas and hypothetical structures. Human beings are capable of expressing ideas and describing objects which do not exist in the real world in a variety of ways, among which are counterfactual conditionals (CFC).

1.1 Theories of Conditionals and CFCs

The logical properties of conditional sentences can be investigated from a variety of aspects. According to classical logic, a conditional sentence is always formalized into the forms of p $\rightarrow$ q, or p $\supset$ q. It is true whenever the protasis is false or the apodosis is true. But this sometimes is in contrary to our intuition:

(1) If 1+1=3, then the Yellow River would be the longest river in China.

Despite the falsity of the protasis of (1), the whole conditional is still false. (1) is a CFC. Similar to an ordinary conditional, it has the form of "if *p*, then *q*". But it is not truth functional, which indicates that the truth of a CFC cannot be dependent on the falsity of the protasis *p* or the truth of the apodosis *q*. This characteristic can be illustrated by the following group of sentences quoted from Carpenter (1995).

(2) If kangaroos had no tails, they would topple over.

(3) If cats had no tails, they would topple over.

(4) If there were no dogs, cats would eat mice.

(5) If there were no cats, cats would eat mice.

(Carpenter, 1995)[1]

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[1] Example sentences whose sources are not indicated are examples created by the author of this dissertation.

Our common sense tells us that both the protases of (2) and (3) are false, and therefore these two conditionals should be true. But readers can easily tell that (2) is true, while (3) is false. In a similar vein, the apodoses of (4) and (5) are both true, but (4) is true while (5) is false.

The non-truth-functional feature is also embodied in the so called counterfactual (CF) fallacies. Some logical rules which are applicable to ordinary conditionals, (also known as material conditionals, the definition of which will be discussed in 1.3.1) do not apply to CF.

a）Strengthening the Protasis

A material conditional permits that all arguments of the form:

$$p \rightarrow q, \text{Therefore } (p\&r) \rightarrow q$$

are valid.

Lewis (1973) gives the following counterexample:

(6) If I had struck that match, it would have lit.

(7) (Therefore) if I had struck that match, and it had been soaking in water, it would have lit.

(Lewis, 1973)

(6) is true. But, although the protasis of (7) is true, judging by our knowledge of the world and the whole CFC the apodosis is false.

Supposedly the premise is true but the conclusion is false.

b) Transitivity

An ordinary conditional is transitive, in the sense that the following inference pattern is valid:

$$(p \rightarrow q), (q \rightarrow r), \text{Therefore } (p \rightarrow r)$$

But Stalnaker (1968) gives the famous counterexample:

(8) If J. Edgar Hoover had been born a Russian, then he would have been a Communist.

(9) If he had been a Communist, he would have been a traitor.

(10)   (Therefore) if he had been born a Russian, he would have been a traitor.

<div align="right">(Stalnaker, 1968)</div>

Even if (8) and (9) are both true, (10) is not necessarily true.

c) Contraposition

Contraposition holds between two propositions of material implication:

$$(p \rightarrow q), \text{Therefore } (\neg q \rightarrow \neg p)$$

This is valid, and so this claim is true. But once again the same does not hold for CFCs. Consider the following example from Lewis (1973):

(11)   If Boris had gone to the party, Olga would still have gone.

(12)   Therefore, if Olga had not gone, Boris would still not have gone.

<div align="right">(Lewis, 1973)</div>

The protasis of (12) may be true, but its apodosis is false, and the whole CFC is not a valid inference from (11).

The above exmaples show that the truth value of a conditional sentence does not only depend on the truth value of the protasis and the apodosis, but the connection between them. This kind of connection varies in different theories. For example, in cotenability theory, this connection refers to the entailment of the apodosis by the protasis and the relevant physical laws. In possible worlds semantics, the truth value of the protasis and the truth value of the apodosis are related in all or in the most similar possible worlds.

Since the 1940s, there have been major developments in the theory of CFCs. Important theories during this period of time include cotenability theory, and possible worlds semantics.

Cotenability Theory originated from Ramsey's hypothesis (1931):

(13) In general we can say with Mill that 'If p then q' means that q is inferable from p, that is, of course, from p together with certain facts and laws not stated but in some way indicated by the context.

It was later further developed by Chisholm (1946) and Goodman (1947). The main idea of Goodman's cotenability theory is that a subjunctive conditional[2] p→q is true if and only if (iff) p, in conjunction with a set S of true sentences and some natural laws, entails q. The key notion of Cotenability Theory is *cotenability*, which is used to exclude ineligible statements from the set of relevant conditions. Goodman proposes the following definition: p is cotenable with S if it is not the case that S would not be true if p were true.

However, even Goodman (1947) himself acknowledged that there is "an infinite regress or a circle". In order to determine the truth of p→q, it has to be determined whether there is a suitable S that is cotenable with p. But in order to determine whether S is cotenable with p, the truth of the CF p→¬S has to be determined. That is, in Edgington's words, "we need cotenability to define counterfactuals and counterfactuals to define cotenability"(Edgington, 2007). Suppose we have two CFCs:

(14) If the flowers had been watered, they would have come out. (W → C)

(15) If the flowers had been watered, they would not have withered. (W → ¬Wi)

If (14) is true while (15) is false, they can be rewritten into (16) and (17) according to the definition of cotenability.

(16) It is the case that if the flowers had been watered, they would have come out. (W → C)

(17) It is not the case that if the flower had been watered, they would not have withered. (¬(W → ¬Wi))

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[2] Subjunctive conditionals in Goodman's theory are roughly equivalent to CFCs defined in this dissertation.

Now the problem is why (W → C) is true but (W → ¬Wi) is false? The only answer is that because (W → C) is true but (W → ¬Wi) is false. Since cotenability is defined in terms of CFCs, a serious problem of circularity naturally arises.

Another important theory for CFC is possible worlds semantics. It is Leibniz who first proposed a coherent possible world theory (Russsell, 1937). Although his "possible world" was not used in the research of modal logic, but rather referred to the ideas in the mind of God, it has given great inspiration to the development of semantics for modal logic.

Since then, Possible Worlds Semantics has been widely used to explain some important philosophical concepts, such as CFs, modality, possibility and necessity. The basic ideas behind the possible worlds semantics contain maninly two points. First, possible worlds are used as part of truth-value semantics for modal notion. Secondly, in the p*ossible worlds* semantics, propositions are either true or false in or at possible worlds (Girle, 2003). That is to say, the truth of a proposition depends on the possible world it is in.

The modern philosophical use of the notion was pioneered by Stalnaker (1968) and Lewis (1973). Stalnaker (1968) claims that to determine the truth value of a conditional sentence, it is sufficient to consider the truth value of the protasis and the apodosis in one possible world, one in which the protasis proposition is true and at the same time is the most similar to the actual world. So, the conditional is true if the apodosis is also true in that possible world. And otherwise, it is false. Stalnaker's theory successfully avoids the three CF fallacies by considering different sets of worlds when evaluating different conditional sentences. His theory is characterized by the uniqueness assumption, which refers to his proposal that there is only one possible world which can satisfy the apodosis and is most similar to the actual world.

Although Lewis (1973) also holds possible worlds semantics for CFCs, he rejects

Stalnaker's uniqueness assumption. He uses nested system of spheres to indicate truth conditions for CFCs in terms of similarity relations between possible worlds. The central notion of it is a relation of *comparative similarity* between worlds (Lewis, 1973). One world is said to be *more similar to actuality* than another if the first resembles the actual world more than the second does.

In terms of this similarity relation, the truth condition for the CF "If *p* were (or had been) the case, *q* would be (or have been) the case", is stated as follows:

(18) "If p were the case, q would be the case" is true in the actual world if and only if (i) there are no possible p-worlds; or (ii) some p-world where q holds is closer to the actual world than is any p-world where q does not hold.

When his theory was first proposed, Lewis's CF analysis offered considerable explanatory benefits. However, there are also some difficulties.

First, it overlooked context-sensitivity. It does not consider the possibility that the nature of causation may change in different contexts. According to the theory, any event but for which an effect would not have occurred is one of the effect's causes. Yet, this may lead to some absurd results, since in daily use of CF, only those that will bring about immediate effects can be regarded as causes.

Second, the idea of similarity is ambiguous. How to judge if world *a* is more similar to the actual world than world *b* is? The answer is not provided in Lewis's works. It is already difficult to compare in the real world if Hong Kong is more similar to New York than Tokyo, not to mention the comparison between some possible worlds other than the actual world. But on the other hand, the vagueness of this concept echoes the obscurity of the truth conditions of CFCs. Therefore, possible worlds semantics will be adopted in this dissertation.

To deal with the various problems that his 1974 theory encountered, Lewis developed a new version of the CF theory, which he first presented in his Whitehead

Lectures at Harvard University in March 1999. Since his old theory is more influential and also due to the limited space here, the new one will not be illustrated.[③]

Yongqiang Ding (2006) summarized three forms of inference for CF entailment. The first type is inference from difference (also called method of difference), which can be illustrated by the proof of the sentence below:

(19)　假如李時珍不進行深入細緻的調查，他是不可能寫出《本草綱目》的。

> Jiaru　　Li　　Shizhen　　bu　　jinxing　　shenru　　xizhi　　de
>
> if　　Li　　Shizhen　　NEG　　conduct　　deep　　thorough　　DE
>
> diaocha,　　　　ta　　shi　　bu keneng　　xie-chu
>
> investigation　　3S　　EMP　　impossible　　write-out
>
> 《bencaogangmu》　　　　de.
>
> Compendium of Materia Medica　　PRT
>
> If Li Shizhen had not carried out a thorough investigation, he would not have finished *Compendium of Materia Medica*. (Yongqiang Ding, 2006)

CF sentence (19) can be analyzed into the following two situations:

Situation	Cause	Phenomenon
a	LI Shizhen carried out a thorough investigation	He finished the *Compendium of Materia Medica*.
b	LI Shizhen carried out a thorough investigation	It was impossible for him to finish the *Compendium of Materia Medica.*

Table 1

Comparing the differences between situation *a* and situation *b*, the causal relationship between the protasis that "LI Shizhen carried out a thorough investigation" and the apodosis that "he finished the *Compendium of Materia Medica*" can be inferred.

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③ Those interested party can refer to Lewis (2000).

The second type Yongqiang Ding suggested is proof by contraction, which means that a proposition is proved true by proving that it is impossible for it to be false. In order to prove p is true, suppose ¬p being true implies q being true, and it is known that q is false. Therefore, ¬p cannot be true, so p is true.

In order to prove that the earth rotates around itself, suppose we have the following sentence.

(20) 如果地球不自轉，就不會有現在的晝夜之分。

Ruguo diqiu bu zi-zhuan, jiu bu hui you xianzai

if earth NEG self-rotate then NEG will have now

de zhou-ye zhi-fen.

DE day-night ZHI-difference

If the earth did not rotate around itself, then there would not be difference between day and night. (Yongqiang Ding, 2006)

The protasis of (20) implies that there is no difference between day and night, which is in contrast to the reality. Therefore, the proposition that the earth rotates around itself is proved.

The third type is figurative reasoning, which is to demonstrate the characteristics of the noumenon through those of the metaphor object. For example, we can express the impossibility of us meeting again by referring to the impossible situation that the earth stopped rotating:

(21) 要是地球不轉了，我們就會重逢。

Yaoshi diqiu bu zhuan le, women jiu hui chongfeng.

if earth NEG rotate LE 1PL then will reunite

If the earth stopped rotating, we would reunite. (Yongqiang Ding, 2006)

The attempt to reveal the hidden logical principles behind the various forms of CFCs is no doubt a meaningful and interesting one. But we believe that these three

inference rules are from heterogeneous logical sources and thus cannot form a harmonious logical system. Method of difference belongs to inductive inference, proof by contraction is deductive reference, while figurative reasoning is analogical inference.

There has been a dynamic turn in the research of CF in recent years. The focus of attention has been shifted from mere considerations of truth conditions to the relationship between the truth-conditional component of the meaning and other pragmatic factors. Most importantly, CF is no longer dealt with as isolated utterances, but treated in a context of a discourse.

Von Fintel (2001) proposed his dynamic semantics for CFs. It is a process of "expansion". When a conditional is accepted as an assertion, the context will be changed to expand the modal horizon. In a new context, the CF "if p then q" will be assigned a context change potential so that we can add the protasis to the modal horizon.

Asher and McCready (2007) gave a compositional semantics of CFCs. They worked out the semantics for *would*, and paired it with the irrealis operator. Here, both conditional and irrealis operator can change according to local epistemic possibilities and therefore their theory can successfully interpret the following example:

(22) A wolf might walk in. If it were to eat you first, I would be unhappy, but not as

unhappy as if it ate me first. (Asher and McCready, 2007)

The first sentence resets the local epistemic possibilities, which are changed by the protasis of the CF. That is, from the possibilities of the wolf walks in to those in which the wolf eats the addressee first. The refined set of local possibilities is used to interpret the apodosis of the CF in the world of evaluation.

Krifka (2001) gave an account of CF within the framework of Discourse Representation Theory (DRT). In DRT, contexts are represented by a special kind of formulas called Discourse Representation Structure (DRS). In dynamic semantics we take a different view of meaning and interpretation: instead of a set of worlds, each

clause contributes a context change potential specifying how it would affect the context it is uttered in.

For a CFC, like "If John had bought a mystery novel, then he would be reading it by now", the anaphoric relationship should be impossible, following the traditional DRT, as a mystery novel indicated did not exist. To treat the case, Sells (1985) proposed a "modal subordination solution". The protasis of a second clause (known as apodosis of a CFC) contains a (possibly non-overt) quantificational operator, like a mood operator (such as *would* in this case) or a quantificational adverbial, which makes a sentence (apodosis) dependent on the previous sentence (protasis). *Would* expresses the consequent of a counterfactual conditional. The apodosis of this sentence is not expressed overtly, but taken from the first sentence. Krifka thus got the following analysis:

(23)   If John had bought a mystery novel, then he would be reading it by now.

u

u=John

¬
> v
> novel (v)
> [u bought v]

> v
> novel (v)
> [u bought v] ⟶ [u is reading v]
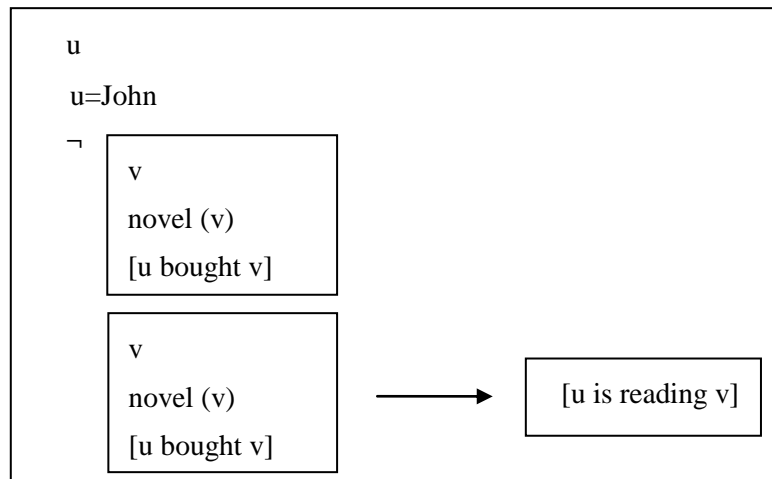
(Krifka, 2001)

Since Lewis's account of CF misses the Context Change Potential (CCP), a dynamic account should be an ideal alternative. It takes into account the context change potential of sentences right from the start and at the same time provides easy access to the truth-conditional dimension of meaning.

1.2 Goals of This Dissertation

If the above theories are the major breakthroughs in the studies of truth conditions of CFCs, then there still remains a formidable problem, among others, to be solved. From the above review of the major theories, it is obvious that English literature abounds, yet the existing literature on Chinese CFCs is little and unsystematic. The reason mainly lies in that Chinese, unlike Indo-European languages, does not have its own set of subjunctive markers, so the results from the researches in English cannot be directly applied to the explanation of the linguistic phenomenon in Chinese, which naturally adds much difficulty to the studies in Chinese. Therefore, the crucial problem that we need to solve here is how counterfactuality is expressed in Chinese conditional sentences.

Bloom (1981) was the one who called our attention to this issue. His investigation showed that Chinese speakers cannot think counterfactually, and he attributed it to the lack of CF markers in Chinese. Yan Jiang (2000) held that just like in Chinese, English does not have such markers either. He revealed that the so-called counterfactual markers in English, namely fake tense and fake aspect, are not specific to CFCs. That is to say, they are applicable to both factual and semi-factual conditionals. Counterfactuality, whether in Chinese or in English, is obtained through pragmatic inference. Feng & Yi(2006), on the other hand, showed through their experiments that there exist in Chinese certain lexical forms and sentence structure which can be identified to contribute to CF reading. When the context information is controlled and restricted, these markers can play an independent role in the formation of CFCs.

Facing the same linguistic phenomenon, Bloom insisted that there are CF markers in English, but not in Chinese. Yan Jiang believed that neither of them does. Feng & Yi, however, claimed that both do. The reason for these varied, even opposite, opinions is

due to the different understandings of the word "marker". Since it can be used in many aspects, such as syntax, semantics and grammatical form, "marker" itself is a vague concept. Moreover, what kind of binding force should a lexical form or sentence structure have in order to be a marker? When a marker can lead to two different readings, can it still be regarded as a marker of one of them? If a linguistic category needs to be marked by more than one sort of linguistic form, can any one of such expressions still be called a marker? The complexity in Chinese poses a tough challenge. We wish to propose an alternative term: ingredients. Ingredients are weak features in essence. Smith, in her "The Parameter of Aspect" (1991), talked about similar ideas for Chinese. According to her, the markers are weak for the dtermination of aspect and tense in Chinese. So, features contribute to the verb endings as particles. Then, the verb+object construction will further determine aspect. Finally, the whole sentence meaning in context can override the previous settings.

We therefore decide to approach this issue by avoiding the terminology of "marker". Instead, as is presented in the title of this dissertation, we choose the word "ingredient". In doing so, we can escape from the restraint of the definition of "marker", while still stick to the goal of the study.

This dissertation will therefore examine the major CF ingredients in Chinese, and give an account of each of them as detailed as possible. Moreover, the inner relationship among the seemingly unrelated features will also be explored, which will lead to an analysis of the process of the generating of CF reading. A three-layer-context system will then be presented to show how these CF ingredients interact with one another and contribute to counterfactuality.

1.3 Some Basic Concepts of Conditionals

Conditionals do not belong to one single category. They contain such compound

sentences as CFCs, indicative conditionals and subjunctive conditionals. The purpose of specifying the similarities and differences among them is to better capture the characteristics of CFCs.

1.3.1 Various Conditionals

A *material conditional* sentence is often regarded as an "ordinary" type of conditionals, because it is a truth-functional conditional. It is generally expressed by the arrow symbol, $\rightarrow$. Its truth values are defined by the following table:

Material Conditional			
p	q	p$\rightarrow$q	¬p∨q
T	T	T	T
T	F	F	F
F	T	T	T
F	F	T	T

Table 2

Two observations can be made about Table 2. First, the conditional sentence is false if the antecedent (p) is true and the consequent (q) is false, but true in every other situation. Second, p$\rightarrow$q is truth-functionally equivalent to ¬p∨[4]q. These two lead to what is well-known as *paradoxes of material conditional*, which refers to a series of paradoxical consequences. Due to the limit of space, only one case is mentioned here. According to the above table, the falsity of the protasis is logically sufficient for the formula to be true. Although the proposition that it is hot entails the truth of the conditional that "If it is not hot, we will go hiking", our intuition tells us that it is not possible for "It is hot" and "It is not hot" to be true at the same time. It is therefore a paradox.

To solve the paradox of material conditionals, the concept of *strict conditional* is

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[4] This logical symbol indicates disjunction (or).

introduced. A strict conditional is different from a material conditional in that it has a necessity operator quantifying over it. The logical relation of strict implication is indicated by a new symbol in the shape of a fish-hook (by Lewis):

(24) p—<q=□(p→q)

For (24) to be true, both the falsity of "p & ∼q" and the impossibility of it are required (Sanford, 2003), which means that (24) is true in all of the relevant worlds in which p is true, q is true.

The reason that the idea of a strict conditional is brought up is that it is closely related to Lewis's theory of CFCs. The key concept of his CF theory, smiliarity of possible worlds, is also the basis on which the idea of strict conditional is constructed.

Conditionals are often classified into two groups, the indicative conditionals and the subjunctive conditionals, based on the mood of the protasis. CFCs account for the majority cases of the latter, although sometimes conditionals which contain *will* and indicate future tense are also included in this group. According to Portner, subjunctive is a kind of verbal mood, because it is dependent subsentential modality represented in the form of the verb (Portner, 2009). It reflects the modal properties of the context in which the verb occurs.

(25) (French)

Il   est   possible   que   je   vienne.

it   is   possible   that   I   come.subjunctive

It is possible that I'll come. (Portner, 2009)

The verb *vienne* is in subjunctive mood, because it is dependent on, or in Portner's words, triggered by, *possible*. Therefore, subjunctive conditionals are just one of the ways in which subjunctive mood is realized. A sentence without the form of "if p then q" can also express subjunctive meaning.

Although mood is expressed by a set of inflectional forms of verbs in English, for

non-inflectional languages, such as Chinese, other linguistic tools are employed to achieve the same purpose. They include i. modal verbs, such as *neng*(能) and *hui*(會); ii. modal adverbs, such as *yiding*(一定) and *kending*(肯定); iii. imperative sentence; iv. conditionals; v. future tense; vi. mental verbs, such as *xiang*(想) and *xiwang*(希望); vii. negators, such as *bu*(不) (Hong Zhou, 2007). The list could be even longer, if sentence final particles and some special sentence patterns (such as *ai*(愛)…*bu*(不)…) are considered.

(26) 在山西省興縣縣城，處處能感受到 12 年改革給老區帶來的巨大變化。

Zai	Shanxi	sheng	Xing	xian	xiancheng,	chuchu
in	Shanxi	province	Xing	county	town	everywhere
neng	ganshou-dao	12		nian	gaige	gei
can	feel-reach	twelve		year	reform	to
lao	qu	dai-lai	de	juda	bianhua.	
old	region	bring-come	DE	huge	change	

In Xing County of Shanxi Province, you can feel the great changes which has been brought about by the Reform in the past twelve years. (i)

(27) 我們的目標一定能夠實現 。

Women	de	mubiao	yiding	nenggou	shixian.
1P	DE	goal	definitely	can	realize

Our goal can surely be achieved. (ii)

(28) 快來救救我呀！

Kuai	lai	jiu-jiu	wo	ya.
quickly	come	save-save	1S	PRT

Help! (iii)

(29) 如果有必要的話，將通過武力使伊拉克撤軍。

Ruguo	you	biyao	dehua,	jiang	tongguo	wuli		shi
if	have	necessity	if	will	through	military force		make

Yilake	che	jun.
Iraq	withdraw force	

If necessary, military forces will be used to force Iraq withdraw its troops. (iv)

(30) 加拿大短跑運動員本‧約翰遜 7 日說，他將於明年巴塞羅那奧運會後退役 。

Jianada	duanpao	yundongyuan	Ben		Yuehanxun	7	ri
Canada	dash	athlete	Ben		Johnson	7	day

shuo,	ta	jiang	yu	ming nian	Basailuona
say	3S	will	in	next year	barcelona

Aoyunhui	hou	tuiyi.
The Olympic Games	after	retire

Canadian sprinter Ben Johnson said on 7th that he would retire after the Olympic Games in Barcelona the following year. (v)

(31) 海部希望布希能早日作好訪日的安排。

Haibu	xiwang	Bushi	neng	zaori	zuo-hao	fang
Toshiki Kaifu	hope	Bush	can	early	make-good	visit

ri	de	an'pai.
Japan	DE	arrangement

Toshiki Kaifu hoped that Bush could make early arrangements for his visit to Japan. (vi)

(32) 中國的援助不附帶任何政治條件和要求。

Zhongguo	de	yuanzhu	bu	fudai	renhe	zhengzhi
China	DE	aid	NEG	attach	any	political

tiaojian   he   yaoqiu.

condition   and   requirement

China has never imposed any political condition and requirement on its assistance to other countries. (vii)

(33) 除了棗醬，其他食物實際上弄不到，但人總不能只靠吃棗醬活下去<u>吧</u>。

Chule	zao	jiang,	qita	shiwu	shijishang	nong-bu-dao,
except	jujube	sauce	other	food	actually	Obtain-NEG-reach

dan	ren	zong	bu	neng	zhi	kao
but	people	after all	NEG	can	only	depend

chi	zao	jiang	huo-xia-qu	ba.
eat	jujube	sauce	Live-down-go	PRT

No food could be obtained except jujube sauce. Yet nobody can live solely on it.

(Word Sketch Engine, gw2xin_m (WSE))

(34) 愛去不去

Ai	qu	bu	qu
love	go	NEG	go

I don't care if you will go there or not.

Subjunctive conditionals and CFCs are not identical in that they have different connotations. CFCs are not necessarily in subjunctive mood (as in (35)), and subjunctive conditionals do not necessarily express CF meaning (as in (36)).

(35) If Shakespeare does not wirte Hamlet, then someone else will.

(36) If the criminal had come by automobile he would have left tracks. (expressing a tentative speculation)

Therefore, not only subjunctive conditionals cannot be equivalent to CFCs, but indicative conditionals cannot be regarded as opposite to them either. In the chapters that

follow, we will use *non-CF* to refer to those conditionals which do not have CF reading.

1.3.2 Examining the Grammatical Features of Conditionals

A conditional sentence is always defined as one containing an adjunct introduced by *if* (Huddleston and Pullum, 2005). A typical conditional sentence in English is composed of *if*, a condition clause (referred to as protasis here, and indicated by *p*) and a result clause (referred to as apodosis here, and indicated by *q*). But sentences without containing *if* may still have conditional implication:

(37) Pay within a week and you will get a 10% discount. (Huddleston and Pullum, 2005)

(= If you pay within a week you will get a 10% discount.)

(38) Invite one without the other and there will be trouble. (Huddleston and Pullum, 2005)

(= If you invite one without the other there will be trouble.)

It is controversial how to best classify conditionals. They can be classified into indicatives, like "If you leave now, you will be punished", and subjunctives, like "If you had not left earlier, you would have witnessed the accident" according to the mood used. They can be classified into conditional statements, commands, promises, offers, questions, etc. according to the syntactic form they take. They can also be classified into real, unreal and past unreal based on the possibility of realizing the consequences of the choice made in the apodosis. In the last classification, different types are represented by using different tenses and it best captures the grammatical features of conditional sentences. So is the classification we will favour. Below is one more source on the classification of conditions. However, as we are unable to bear the burden of defining conditionals in the light of the concept of "probability" with a clear and convincing distinction between the "improbable" and the "impossible", we will not refer to this this

system any more. The classification and forms of conditional sentences can be illustrated by the following table (Joseph, 2010):

Classification	Sentence Form	Example
Zero Type	If+simple present+simple present	(39)
Type 1: Probable Conditions	If+simple present+simple future	(40)
Type 2: Improbable Conditions	If+simple past+would+base verb	(41)
Type 3：Impossible Conditions	If+past perfect+would have+past participle	(42)

Table 3

(39) If the manager is too busy, the assistant manager shares part of his responsibility.

(40) If it rains tomorrow, the football match will be postponed.

(41) If he spent more time on his study, he would pass the exam.

(42) If John had been in Hong Kong, he would have benefited more from the social security system.

1.4 Structure of This Dissertation

This dissertation is composed of seven chapters. Chapter Two is an introduction to conditionals and CFCs in Chinese. Chapter Three reviews the previous studies on Chinese CFCs. Chapter Four is a detailed study on how temporal elements, including phase, aspect and tense, contribute to factual/CF reading of a conditional. Chapter Five examines the functions of other CF ingredients. Chapter Six presents the framework of CF interpretation and argues that just like in English, CFCs can also be systematically

analyzed in Mandarin Chinese. Such a process is mainly semantic, instead of being a pragmatic one. Chapter Seven is a summary of the whole dissertation.

Questionnaires and corpus search are used as complementary research methods to support our findings. Questionnaires are designed to test Chinese native speakers' judgments of CF reading when discourse contexts are not provided. Corpus research has been applied throughout this dissertation for the purpose of conducting data collection providing examples, and making statistical inferences.

CHAPTER TWO   A SURVEY OF CONDITIONALS AND CFCS IN CHINESE

This chapter gives an overview of the sentences expressing conditional propositions in Chinese. Although sentences expressing CF propositions belong to a subtype of conditional-denoting sentences and share quite a few grammatical and lexical features with the latter, it is the unique properties of the CF-denoting sentences that make them stand out as a linguistic phenomenon worthy of investigation.[⑤]

2.1 Chinese Conditionals

Before we explore into the myth of CFCs in Chinese, it is of essential necessity to make a sketch of the conditional-denoting sentences in Chinese. Since CFCs are a significant part of conditionals, a better understanding of the latter will send us to the right starting point in the exploration of the former.

We will first scrutinize the definitions of conditional-denoting sentences in Chinese that have been documented in the traditional studies of Chinese grammar. Then, their classifications and some key features will be examined. We will pay special attention to the differences between Chinese conditionals and English conditionals, focusing on the employment of temporal constructions for the expression of hypothetical meaning in both languages.

2.1.1 Conditionals vs. Hypotheticals: A New Definition

Hypothetcial statements and conditionals are two domains which are highly related. According to Athanasiadou & Dirven (1997), hypothetical sentences are a type of

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[⑤] Due to terminology confusion in the traditional literature on Chinese grammar, we have to use the indirect and rather awkward ways to talk about conditional and counterfactual sentences in Chinese at this initial stage. A clear redefinition towards the later part of the chapter will result in easier terms of reference.

conditionals; CFCs are a subclass of hypothetical sentences. Compared with other types of conditionals, in terms of entailment, hypothetical sentences are the only type which does not entail its antecedent (protasis) or its consequent (apodosis):

(1) If the weather is fine, we'll go for a swim. (hypothetical)

(2) If you are thirsty, there's beer in the fridge.

(Athanasiadou & Dirven, 1997)

In (1), the sentence neither entails "the weather is fine", nor "we will go for a swim". But (2), in contrast, entails the proposition that there's beer in the fridge. It's mainly because a hypothetical conditional does not guarantee the situations accounted for in the sentences will be actually realized. In other words, the speaker does not commit himself to the occurrence of the antecedent, nor of the consequent. They are just hypothetical.

Hypothetical sentences may use various conditional conjunctions, such as *supposing*, *assuming* and *on condition that*.

(3) *Supposing* that you should go bald, what would you do?

(4) *Assuming* that you go bald, what about your job?

(5) We will make you a baron *on condition that* this invention works.

(Athanasiadou & Dirven, 1997)

But hypothetical meaning can also be expressed beyond the typical "if p, then q" conditional construction.

(6) If only he comes in time.

(7) If only he will come in time.

(Athanasiadou & Dirven, 1997)

What is denoted by hypothetical sentences and conditionals in Western logical and linguistic studies have been labeled with a pair of terms in traditional Chinese grammatical studies respectively: *jiasheju*(hypotheticals) and *tiaojianju*(conditionals).

Both fall under the category of complex sentences, even though they are taken as compound propositions in logic. The reason that they are not defined as compound sentences is because the relationship between the protasis and the apodosis is not an equal one, the former being a subordinate clause, while the latter, superordinate. Complex sentences can be further divided into several categories, including transitional, conditional, hypothetical, concession, enhancement and causal, based on the relationship between the clauses. Here, we will only cover two types, namely conditional (See (8) and (9)), and hypotheticals (See (10) and (11)).

(8) 只要懷抱著信心，就能創造奇跡。

Zhiyao huaibao zhe xinxin, jiu neng chuangzao qiji.

if only full of PROG confidence then can create miracle.

If only one is full of confidence, he can create a miracle.

(9) 只有春天到來，生活裏才能開滿鮮花。

Zhiyou chuntian dao-lai, shenghuo li cai neng kai-man

only spring arrive-come life in just can blossom-full

xianhua.

flower

Only when spring arrives can life be in full blossom.

(10) 如果你願意，我就陪你去白雲山看看。

Ruguo ni yuanyi, wo jiu pei ni qu baiyun-shan

if 2S want 1S then accompany 2S go Baiyun-Mountain

kan-kan.

see-see

If you want to, I can accompany you to pay a visit to Baiyun Mountain.

(11) 假若我永遠不能按照曲調的本來要求彈奏每一個音符，那麼我什麼時候
能成為真正的演奏家呢？

Jiaruo	wo	yongyuan	bu	neng	anzhao	qudiao	de	benlai
if	1S	forever	NEG	can	according to	melody	DE	original

yaoqiu	tanzou	mei-yi-ge	yinfu,	name	wo	shenme shihou
requirement	play	every-one-CL	note	then	1S	what time

nenggou	chengwei	zhenzheng	de	yanzoujia	ne?
can	become	real	DE	musician	PRT

If I can never play the melody notes according to its original requirement, when can I become a real musician? （Borong Huang & Xudong Liao, 1996）

There have been arguments concerning whether conditional and hypothetical should be unified into one single category. Linguists, including Jingxi Li (1924) and Borong Huang and Xudong Liao(1996), hold that hypothetical and conditional are two independent categories, because the protasis of a hypothetical puts forward a hypothesis or a speculation, and its apodosis expresses a result. But for a conditional, the protasis contains a condition, while its apodosis illustrates the result that will come to if the condition is fulfilled. There are also quite a number of linguists who support the unification of these two categories (Li Wang 1946, Shengshu Ding et al. 1961, Yushu Hu 1995, Weixian Wang et al. 1994, Yan Jiang & Haihua Pan 2005), claiming that there is a blurring division between them.

The following chart shows the opinions by some of the linguists[6]:

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[6] The lines containing two "+" symbols indicate that the linguists concerned believe there is a blurring division between hypotheticals and conditionals. Otherwise, the linguists concerned believe that hypotheticals and conditionals are two separate categories.

Literature	Hypothetical	Conditional
Jingxi Li (1924)	+	+
Li Wang (1946)	−	+
Shengshu Ding et al. (1961)	−	+
Yushu Hu (1995)	−	+
Borong Huang and Xudong Liao (1996)	+	+
Weixian Wang et al. (1994)	−	+
Yan Jiang & Haihua Pan (2005)	−	+

Table 4

As was pointed out by Yan Jiang & Haihua Pan (2005), there is no strict distinction between conditionals and hypotheticals except for the tone of expression[7]. In fact, they integrate into each other. Part of the evidence that supports the unification of the two subcategories is that both of them are identified with material implication. We will repeat sentence (8) as the example below.

(12)　(p)只要懷抱著信心，(q)就能創造奇跡。

The protasis p is sufficient for q, which means that p cannot occur without bringing about q, or whenever p occurs, q occurs. Its truth condition is listed below:

$$p \longrightarrow q = 1 \text{ iff } (p = 0) \vee (q = 1), \text{otherwise}, 0.$$

The hypothetical (3) is repeated below as (9):

(13)　(p)如果你願意，(q)我就陪你去白雲山看看。

$$p \longrightarrow q = 1 \text{ iff } (p = 0) \vee (q = 1), \text{otherwise}, 0.$$

Hypothetical sentences very much resemble *conditionals* in English grammar, which is the superordinate category. They can be understood as sufficient conditionals, or

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[7] For more, please refer to Yan Jiang & Haihua Pan (2005)[2nd edition].

sometimes, when strengthened[8], can be taken as necessary conditionals. But conditional sentence can be split into *zhiyao*(只要) sentence and *zhiyou*(只有) sentence. The former is sufficient condition and the latter is necessary condition which is equivalent to the English *only if* sentences. For the convenience of the future discussion and to make it more pertinent to the topic issue of this dissertation, we propose that the only difference lies in their conjunctions. Conditional sentences and hypothetical sentences are both included in the category of conditionals. More importantly, since the category has been redefined, we will propose a new subclassification for conditionals in Chinese.

2.1.2 Subclassification of Conditionals

Since the group of conditionals in Chinese contains both hypothetical and conditional, it is now impossible for us to simply distinguish different types of sentences according to the conjunctions. [9]

One of the alternatives would be to follow the philosophers' traditional distinction between indicative conditionals and CFCs. The following examples by Adams (1970) illustrate the differences:

(14) (indicative) If Oswald did not kill Kennedy, somebody else did.

(15) (CF) If Oswald had not killed Kennedy, somebody else would.

(Adams, 1970)

They differ both in their truth conditions and in verb forms. People may find (14) acceptable while (15) not based on their knowledge that someone killed Kennedy. That is the difference in meaning. A conditional "If A then B" is supposed to be true whenever the protasis "A" is false. Since a CFC implies that the protasis is false, it should have

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[8] For conditional strengthening, please refer to Wong, C. W. (2006).
[9] Conditionals usually contain conjunctions, such as *zhiyao*(只要)*...jiu*(就)*/dou*(都)*/bian*(便)*/zong*(總)*, zhiyou*(只有)*/weiyou*(唯有)*/chufei*(除非)*...cai*(才)*/fouzei*(否則)*, wulun*(無論)*/bulun*(不論)*/buguan*(不管)*/ren*(任)*/renping*(任憑)*...dou*(都)*/zong*(總)*/zongshi*(總是); hypotheticals are typically introduced by conjunctions, such as *ruguo*(如果)*/jiaru*(假如)*/tangruo*(倘若)*/ruo*(若)*/yaoshi*(要是)*/yao*(要)*...name*(那麼)*/na*(那)*/bian*(便).

been assumed that such conditionals are always true, which actually is not a fact. The past tense morphology in (15) is usually not interpreted as past tense, but is dealt with as *fake tense*, as was proposed by Iatridou (2000).

There are other ways of classification besides the indicative/CF distinction. For example, both Leech and Svartvik (1994) and Quirk et al. (1972) classified conditional clauses into those of *open*, *hypothetical* and *negative* conditions. Swan (1995) gave the classification of *ordinary tense* and *special tense*. But we will still adopt the classification of Adams (1970). In addition to the fact that this is a well-accepted classification, there are two other reasons.

First, one of the two types coincides with the key word of this dissertation — CFCs. So this classification will bring a lot of convenience for our study here. We do not need to collect the bits and pieces from different categories. Instead, we can just take advantage of the shared properties of the unified group.

Second, English indicatives differ from CFs in the temporal expressions they contain. In Chinese, although tense is expressed in a different way, in sharp contrast with English, the temporal features for Chinese indicatives still differ sharply from their CF counterparts. Therefore, CF markers will be a starting point for our considerations here. We will see whether there is any CF marker in Chinese and how counterfactuality is expressed in the language.

Although a distinction is made between indicative and CF conditionals, these two categories are not completely separately from each other. Evidence could be found in the recent studies of conditionals in Chinese from realis/irrealis perspective (Xiaoying Luo 2006, Min Li 2006, Xiaoling Wang 2007, Xueping Zhang 2008). Realis and irrealis are on a continuum, or in Foley's (1986) words, "gradual". It is difficult to draw a clear line between these two categories. This is a basic principle in cognitive linguistics. According to Langacker (1987), lexicon, morphology, and syntax form a continuum of

symbolic structures, which differ along various parameters but can be divided into separate components only arbitrarily. He tries to illustrate the relationship between realis and irrealis through the following cognitive schema.
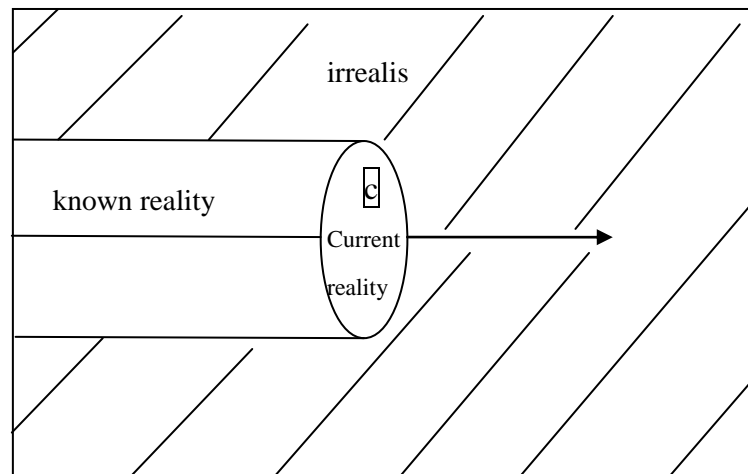
Figure 1

CFCs are at the irrealis end of the continuum, because it is of greater epistemic distance compared with other sentences under the category of irrealis. It indicates situations or events which are either contrary to facts or absolutely impossible in reality.

The distinction between indictive conditionals and CFCs is not clear cut either. There is eveidence in both English and Chinese. (15) is a good example worthy of reconsideration, which is repeated below as (16):

(16) If Oswald had not killed Kennedy, somebody else would. (Adams, 1970)

According to Adams, this is a subjunctive conditional (known as CFC in this dissertation) and could obviously be false. However, Barwise argued that if one of the conspiracy theories of Kennedy's assasination were true and the conspirators had lined up a number of would-be assassins, then years later, one of those assassins could utter the above sentence. That means the conditional can also be factual or open, and is an indictive one.

In Chinese, there are similar examples:

(17) 如果恩來看到這個材料，會哭死的。

Ruguo	Enlai	kan dao	zhe- ge	cailiao,	hui	ku	si	de.
if	Enlai	see	this- CL	material	will	cry	die	PRT

a.   If Enlai sees the documents, he will get heartbroken.

b.   If Enlai had seen the documents, he would have got heartbroken.

Let us suppose that the sentences were uttered by Premier Zhou's wife, Madame Yingchao Deng. She got the documents and knew that her husband would be very sad to read them. She uttered (17a) when she just got the documents in her hands and was afraid to let her husband know. She uttered (17b) when she carelessly left the documents on Zhou's desk and later found that he had not noticed them.

Therefore, there should be a third subcategory between indicative conditionals and CFCs which can be interpreted in either way. Here, we call them *ambivalent conditionals*.

2.1.3 Chinese and English Conditionals

Conditionals in Chinese and in English display some different features. In this section, we will mainly observe two aspects: semantic and grammatical aspects.

2.1.3.1 Chinese Donkey Sentences

Recent studies on the semantic features of Chinese conditionals as opposed to the English counterparts starts from Cheng & Huang (1996) and Jo-wang Lin (1996), focusing on donkey anaphora, anaphoric relations between the pronoun and the *wh*-words in Chinese.

Cheng & Huang (1996) suggested the existence of donkey sentences in Chinese and identified two types of conditional donkey sentences: the bare conditionals, such as examples (18), (19), and *ruguo*(如果)- and *dou*(都)- conditionals, such as (20), (21), (22) and (23).

(18) 誰先進來，我先打誰。

Shui   xian   jin-lai,   wo   xian   da   shui.

who   first   enter-come   1S   first   beat   who

If X enters first, I will beat X first.

(19) 你喜歡誰， 誰倒楣。

Ni   xihuan   shui,   shui   daomei.

2S   like   who   who   have back luck

If you like X, X will have bad luck.

(20) 你叫誰進來，我都見他。

Ni   jiao   shui   jin-lai,   wo   dou   jian   ta.

2S   ask   who   enter-come   1S   all   see   3S

Whoever you ask to enter, I will see him/her.

(21) 你叫誰進來，我都不高興。

Ni   jiao   shui   jin-lai,   wo   dou   bu   gaoxing.

2S   ask   who   enter-come   1S   all   NEG   happy

Regardless of who you ask to enter, I'm not happy.

(22) 如果你看到誰， 請叫那個人來見我。

Ruguo   ni   kan dao   shui,   qing   jiao   na-ge-ren   lai   jian

if   2S   see   who   please   ask   that-CL-person   come   see

wo.

1S

If you see someone, please ask him/her to come to see me.

(23) 如果你看到誰，請趕快告訴我。

Ruguo   ni   kan dao   shui,   qing   gankuai   gaosu   wo.

if   2S   see   who   please   quickly   tell   1S

If you see someone, please tell me quickly.

(Cheng & Huang, 1996)

Bare conditionals are so called because they have neither "an overt leading element" such as *ruguo*(如果), in the protasis, nor an *overt quantifier* such as *dou*(都) in the apodosis. The properties of such sentences are summarized by Cheng & Huang (1996) as follow:

a. The donkey anaphora must take the form of a *wh*-word.

b. The donkey *wh*-word must be identical to the *wh*-word in the protasis clause.

c. There must be an element in the apodosis clause referring back to the *wh*-word in the protasis clause.

To provide an explanation to the above properties, Cheng & Huang (1996) interpreted bare conditionals with *wh*-words by universal quantification involving an unselective binder that has scope over both the protasis and apodosis clauses.

Dou(都) conditionals have the quantifier *dou*(都) in the apodosis, while *ruguo*-conditionals have *ruguo*(如果) which heads the protasis. These two types are of complementary distribution to bare conditionals. The element in the apodosis referring back to the *wh*-word, cannot be a *wh*-word; instead, it must be a pronoun or a definite description. In addition, nothing is required in the apodosis to refer back to the wh-word in the protasis.

Ruguo(如果)-conditionals have a leading element *ruguo*(如果) in the protasis, which serves as the licenser of the wh-word(s) in the protasis clause. Thus the wh-word is treated as an existential quantifier, subject to Quantifier Raising. The structural requirement of the protasis is fulfilled, and there is no need for an additional wh-word in the apodosis clause. Cheng & Huang also proposed that the pronoun in the apodosis that refers to the *wh*-word is an E-type pronoun (Evans, 1980). That is, such kind of pronoun cannot take a negative quantifier, as its protasis. And since the protasis of *ruguo*(如

果)-conditionals cannot have an expression equivalent to "no one" as the antecedent[⑩] of the pronoun, the pronoun in a *ruguo*(如果) –conditional can be identified as an E-type pronoun.

Dou(都)-conditionals have the quantifier *dou*(都) in the apodosis clause. *Dou*(都)-conditionals and *ruguo*(如果)-conditionals can be treated in the same way based on the assumption that *dou*(都)-conditionals involve existential quantification. Cheng & Huang held that the protasis clause of a *dou*(都)-conditional is an elliptical phrase containing an embedded question. Since an embedded question has the force of existential quantification, the analysis of *ruguo*(如果)-conditionals can also be applied to *dou*(都)-conditionals.

Chierchia (2000) tried to analyze the Chinese donkey sentences by applying Dynamic Binding Theory. He tries to prove that indefinites can be viewed in terms of existentially quantified terms, yet their existential force can be overridden by operators in their local environment that wipe out their existential force.

He pointed out that in English, donkey pronouns display alternations between A- and E- readings, and he gives the following two sentences:

(24)   a. Everyone who has a dime will put it in the meter.

b. Everyone who had a slave owned his offsprings.

(Chierchia, 2000)

(24a) has E-reading because its truth condition only requires one dime to be put in the meter to make the sentence true. However, (24b) has A-reading because someone who owns x owns each and every offspring of every x.

In contrast, in bare and *dou*(都)-conditionals in Chinese, donkey anaphors get only the A-reading, while in *ruguo*(如果)-conditionals both readings are possible.

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⑩ Antecedent here does not refer to the conditional clause of a conditional, but the word, phrase, or clause to which a pronoun refers, understood by the context.

(25) 誰第一個來，誰就先開始考試. (A-reading)

Shui di-yi-ge   lai, shui jiu xian kaishi kaoshi.

who number-one-CL come who then first start exam

Whoever comes first shall start the exam first.

(26) 誰遲到他都不放過。（A-reading）

Shui chi-dao ta dou bu fangguo.

who late-come 3S all NEG let off

Regardless of who is late, he will not let him off.

(27) 如果你要錄取誰，讓那個人先填張表格。（E-reading）

Ruguo ni yao luqu shui, rang na- ge- ren xian

if 2S want enroll who let that-CL-person first

tian zhang biaoge.

fill in CL form

If you want to enroll X, ask X to fill in a form first.

According to Chierchia (2000), the hypothetical conjunction in Chinese *ruguo*(如果), unlike its English counterpart *if*, has the ability to license *wh*-words. And therefore the meaning of *wh*-words is basically identical to that of indefinites.

So, as summarized by Chierchia, the properties of *wh*-words in Chinese bare conditionals include (i) existential meaning; (ii) quantificational variability; (iii) anaphoric behavior in the apodosis of a conditional; (iv) non-anaphoric behavior elsewhere.

2.1.3.2 Tense Expressions

Another major difference between Chinese and English conditionals lies in tense. Chinese does not have obligatory inflection on predicate verbs to encode temporal information, as observed by linguists such as Jung Chang (1987), and Li & Thompson

(1990), which is in contrast with English, where verbs conjugate to reflect time relations. However, we cannot simply make the claim that "Chinese is a tenseless language". It is only acceptable if *tense* refers to a morpheme, which could either be an inflection or auxiliary, which has a temporal interpretation. In fact, just like in English, the three time indices (as proposed by Reichenbach, 1947), namely Speech time (ST), Event Time (ET) and Reference Time (RT) can all be lexically coded in Chinese (Smith, et al., 2009). In Mandarin, it is the aspectual factors that provide important information, while in English, tense and aspect interact.

In the following discussion, we will follow Smith & Erbaugh (2005) in finding out how temporal anchoring is determined in Chinese.

Aspects are expressed in Chinese by *le*(了), *guo*(過), *zai*(再), *zhe*(著) and zero-marked clauses. The post-verbal *Le*(了)[11] and *guo*(過) are perfective. *Le*(了)1 conveys that the event is contained in Sit[12]/RT (See Sentence (28)); *guo*(過) conveys that SitT precedes RT (See sentence (29)).

(28) 他去了美國。

Ta qu le meiguo.

3S go LE US

He has gone to the US.

(29) 他去過美國。

Ta qu guo meiguo.

3S go GUO US

He has been to the US.

Sentence (28) shows that the SitT and RT are simultaneous. Sentence (29) indicates that ST locates before RT time.

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[11] Also known as *Le*(了)1.

[12] Reichenbach's event time.

Zai(在) and *zhe*(著) are imperfective. See the following two examples (30) and (31):

(30) 老張<u>在</u>打瞌睡。

    Laozhang   zai   da   keshui.

    Laozhang   PROG   beat   asleep

    Lao Zhang is falling asleep.

(31) 老張看<u>著</u>電視織毛衣。

    Laozhang   kan   zhe   dianshi   zhi   maoyi.

    Laozhang   watch   PROG   TV   knit   sweater

    Lao Zhang is knitting a sweater while watching TV.

In (30), *zai*(在) is progressive imperfective, while in (31), *zhe*(著) is used to indicate background.

Verbs and modal verbs can also provide temporal information. Such verbs include resultative verb complements, past- and future-oriented verbs and modal verbs. Resultative verb complements refer to verb suffixes that convey that the final endpoint of a telic event has been reached. They can be either verbs or adjectives[13]. Since verbs are now under discussion, examples will be those which contain verbs only. A typical example is *wan*(完), as in the following sentence:

(32) 他吃<u>完</u>飯就睡覺了。

    Ta   chi   wan   fan   jiu   shuijiao   le.

    3S   eat   finish   meal   then   sleep   PRT

    He went to sleep after he finished his meal.

This category also includes verbs, such as *hui*(會) and *dao*(到):

(33) 他學<u>會</u>開車了。

    Ta   xue   hui   kai   che   le.

---

[13] Some believe that adjectives on this occasion can also be regarded as static verbs.

3S   learn   master   drive   car   PRT

He has mastered the skill of driving.

(34) 我找<u>到</u>一個好老師。

Wo   zhao-dao   yi-ge   hao   laoshi.

1S   find   one-CL   good   teacher

I have found a good teacher.

Past-oriented verbs include factive verbs, verbs which presupposes the truth of their complement sentence, such as *houhui*(後悔)：

(35) 顧城<u>後悔</u>打了自己的愛妻。

Gucheng   houhui   da   le   ziji   de   ai-qi.

Gucheng   regret   beat   LE   own   DE   loving-wife

Gu Cheng regretted having beaten his loving wife.

Future-oriented verbs, such as *jihua*(計畫) and *zhunbei*(準備).

(36) 他<u>計畫</u>在下雨打雷時，將風箏放到空中。

Ta   jihua   zai   xiayu   dalei   shi,   jiang   fengzheng

3S   Plan   in   rain   thunder time   JIANG   kite

fang-dao   kongzhong.

fly-to   sky

He plans to fly the kite into the sky when it is raining and thundering.

(37) 中央<u>準備</u>大量復員軍隊。

Zhongyang   zhunbei   daliang   fuyuan   jundui.

central government   plan   a large   demobilize   army

The Central Government plans to demobilize troops in a large scale.

<div align="center">(Corpus of Center for Chinese Linguistics PKU (CCL Corpus))</div>

Modal verbs also indicate futurity and lead to different temporal interpretation. Modal verbs, such as *hui*(會), *yao*(要), *jiang*(將), can be used to express intention and prediction which relates to future time.

(38) 他以為這突然的槍響<u>會</u>把賀龍嚇個半死。

Ta	yiwei	zhe	turan	de	qiangxiang	hui	ba	Helong
3S	think	this	sudden	DE	gunshot	will	BA	He Long

xiagebansi.

freak out

He thought the sudden gunshot would freak He Long out.

(39) 我有急事<u>要</u>去處理一下。

Wo	you	jishi	yao	qu	chuli	yi	xia.
1S	have	emergency	will	go	deal with	one	CL

I have some emergency situations to deal with.

(40) 畢竟，我面對的<u>將</u>是一群無論資歷、優勢都比我大得多的選手。

Bijing,	wo	miandui	de	jiang	shi	yi qun	wulun
after all	1S	face	DE	will	be	a group	no matter

zili,		youshi	dou	bi		wo	da	de	duo	de
qualifications		advantages	all	compare		1S	big	RES	much	DE

xuanshou.

competitors

After all, I will face a group of competitors who have more qualifications and advantages than I do.

(CCL Corpus)

Some adverbs can also serve the same purpose. There are several types of these temporal adverbials. The first type is called *locating* or *frame adverbs*, which are used to

specify a time or an interval, and locate a situation against a certain temporal background.

(41) 第二輪六方會談<u>今天上午</u>在北京開幕。

Di'er	lun	liufang	huitan	*jintian shangwu*	zai	Beijing	kaimu.
second	CL	six-party	talk	today morning	in	Beijing	open

The second round of Six-party talks opens this morning in Beijing.

(42) 一九五七年<u>六月一日</u>，胡喬木通知我，說毛主席要找我談話。

Yijiuwuqinian		*liuyue yiri*,	Hu Qiaomu	tongzhi	wo,	shuo
nineteen fifty-seven		June first	Hu Qiaomu	inform	1S	say

mao zhuxi		yao	zhao	wo	tanhua.
Mao Chairman		want	find	1S	talk

June 1st, 1957, Hu Qiaomu informed me that Chairman Mao wanted to talk to me.

(CCL Corpus)

The second type includes adverbs used as connectives between clauses, e.g. *yihou*(以後), *jiu*(就) and *yijing*(已經).

(43) 記住了，<u>以後</u>逮著機會就不要放過。

Jizhu	le,	*yihou*	daizhe	jihui	jiu	bu	yao
remember	LE	future	grasp	opportunity	then	NEG	will

fang-guo.
let slip

Remember, do not let the opportunity that you have grasped slip away.

(44) 如果這裏面有一退休工人跟我們一塊幹,<u>就</u>得交稅啦。

Ruguo	zhe	limian	you	yi	tuixiu	gongren	gen	women
if	here	inside	have	one	retired	worker	with	1PL

yikuai   gan   *jiu*   dei   jiao shui la.

together   work   then   should pay   tax   PRT

If there is a retired worker working with us here, then we will have to pay tax.

(45) 我在這兒，已經好幾個月了。

Wo   zai   zhe'er, *yijing*   hao   ji-ge-yue   le.

1S   in   here   already   good   several-CL-month   PRT

I have been here for quite a few months.

<div align="right">(CCL Corpus)</div>

Frequency adverbs such as *changchang*(常常) also attribute to aspectual situation type and therefore will affect the temporal reading of a sentence.

(46) 我常常工作到凌晨才關上燈。

Wo *changchang*   gongzuo   dao   lingchen   cai   guanshang   deng.

1S   often   work   until   dawn   then   turn off   light

I often do not turn off the light until dawn when I finish working.

Since Chinese convey temporal information in a different way compared with its English counterparts, it has its unique way of expressing counterfactuality.

2.1.4 Some Grammatical Features of Conditionals in Chinese

Having discussed the major differences between Chinese and English conditionals, we will shift our focus to some of the grammatical features of the conditionals in Chinese. Mainly, we will cover the hypothetical conjunctions, the relationship between the clauses, modality in conditionals and subjective meaning.

2.1.4.1 Hypothetical Conjunctions

Unlike in English, where "if" is used in most cases, hypothetical conjunctions take various forms in Chinese. The following table shows the frequency of the use of some of

the most frequently used hypothetical conjunctions in Chinese (Beijing Language Institute, 1986):

Term	Term Frequency	Frequency	Usage Frequency
Ruguo(如果)	784	05965	566
Ru(如)	109	00829	77
Ruo(若)	56	00426	43
Jiaruo(假若)	36	00274	24
Jiaru(假如)	33	00251	25
Jiashi(假使)	28	00213	29
Tangruo(倘若)	25	00190	17
Tang(倘)	20	00152	10
Ruoshi(若是)	10	00122	11
Ruruo(如若)	4	00030	2
Jiajie(假借)	4	00030	2
Jiashe(假設)	3	00023	2
Tangshi(倘使)	3	00023	2

Table 5

Although the conjunctions quoted in the above chart are single terms, they are seldom used standalone. A conjunction can be paired with a conjunction, such as in the following conditional:

(47) 然而冰川如果全部融化，那麼海平面將上升 80—90 米。

Ran'er   bingchuan   *ruguo*   quanbu   ronghua,   *name*   haipingmian

however   glacier   if   completely   melt   then   sea level

jiang   shang-sheng   80-90 mi.

will   rise   80-90 meter

However, if the glacier melts completely, then the sea level will rise 80-90

meters. (CCL Corpus)

A conjunction can also be paired with an adverb:

(48) 除非把腦袋割下來，我才信你。

> *Chufei* ba naodai ge xia lai, wo *cai* xin ni.
>
> unless BA head chop off come 1S just believe 2S
>
> Unless you chop off your head, I will believe in you. (CCL Corpus)

In addition, there is a special type called bare conditionals. According to Cheng and Huang, bare conditionals are donkey sentences. They lack an overt leading element *ruguo*(如果), bear only future tense/aspect, disallow apodosis pronouns/definite expressions, and require the presence of two identical *wh*-words to occur (Cheng & Huang, 1996).

(49) 誰先勝三局誰就得到 12 枚金幣。

> *Shui* xian sheng san-ju *shui* jiu de-dao shi'er-mei
>
> who first win three-CL who then win twelve-CL
>
> jinbi.
>
> gold coins
>
> He who wins three rounds first can get twelve gold coins.

(50) 讓幹什麼就幹什麼。

> Rang gan *shenme* jiu gan *shenme*.
>
> let do what then do what
>
> Do whatever you are asked to do.

<div align="right">(Cheng & Huang, 1996)</div>

Chinese hypothetical conjunctions also vary in terms of their ability to express possibility. Since such possibility may refer to the impossibility of a proposition to be true, it has a close bearing on CF reading. Therefore a detailed analysis will be made in 5.1.

2.1.4.2 The Components of a Conditional

By components, we mean the two clauses contained in a full conditional sentence.

Suppose we use the following formula to indicate the basic structure of such sentence:

Conj.1+Cla1, Conj.2+Cla2

(Conj.=Conjunction, Cla=Clause)

A conditional clause usually involves an adverbial clause, referred to as antecedent or protasis, and a main clause, known as the consequent or apodosis. Although the antecedent - consequent pair is more often used today than the protasis-apodosis pair, we will still adopt the latter in this dissertation.

The protasis is a condition that has not been realized yet. But different conditional sentences may vary in the possibility of the realization of their conditions. See the following example sentences:

(51)如果農民消費上不去,那麼中國整個消費的增加將成問題。

Ruguo	nongming	xiaofei	shang-bu-qu,	name	zhongguo
if	farmer	consumption	up-NEG-go	then	China

zheng-ge	xiaofei	de	zengjia	jiang	cheng	wenti.
whole-CL	consumption	DE	increase	will	become	problem

If the farmers' consumption does not go up, then the increase of the consumption level of the whole China will become a problem.

(52)如果早知道領導會來視察,我們就做好準備了。

Ruguo	zao	zhidao	lingdao	hui	lai	shicha,	women	jiu
if	already	know	boss	will	come	inspect	1PL	then

zuo-hao	zhunbei	le.
make-good	preparation	PRT

If we had already known that the boss would have come to make an inspection, we would have made some preparations.

The conditional of sentence (51) is possible, and the satisfaction of it may lead to the consequence stated in the main clause. In contrast, sentence (52)'s condition was not

fulfilled and possibility is therefore zero. Such kind of sentences is CF.

If the condition in the sentence is already realized, the sentence is no longer a conditional, but the relationship between the clauses becomes causal. For example:

(53) a. 如果標普下調美國主權信用評級，那麼全世界股市都會受到影響。

Ruguo   biao pu   xia   tiao   meiguo   zhuquan

if   standard and poor's   down   adjust   US   sovereign

xinyong   pingji,   name   quan   shijie   gu   shi   dou   hui

credit   rating   then   whole   world   stock market   all   will

shou-dao   Yingxiang.

suffer-reach   affect

If the Standard and Poor's downgrade the U.S. sovereign credit rating, the global stock exchanges will be greatly affected.

(The Standard & Poor's has not downgraded the U.S. credit rating yet.)

   b. 因為標普下調美國主權信用評級，所以全世界股市都受到了影響。

Yinwei   biaopu   xia   tiao   meiguo   zhuquan

because   standard and poor's   down   adjust   US   sovereign

xinyong   pingji,   suoyi   quan   shijie   gu   shi   dou

credit   rating   so   whole   world   stock market   all

shou-dao   le   yingxiang.

suffer   LE   affect

Since the Standard and Poor's has downgraded the U.S. sovereign credit rating, the global stock exchanges has been greatly affected.

(The Standard & Poor's has not downgraded the U.S. credit rating yet.)

The different interpretation of the protasis requires the use of different hypothetical conjunctions which indicates the different logical relation between the protasis and the apodosis.

2.1.4.3 Subjectivity in Conditionals

In the study of conditionals, the issue of subjectivity was firstly raised as an evidence to prove that a conditional sentence is not a proposition with truth values. According to Bennett (2003), many indicative conditionals have a subjective element to them, yet they are not devices whereby the speaker reports some fact about himself. So it is supposed that in an indicative conditional the speaker expresses, instead of reporting, a fact about his own state of mind. And he concluded that since conditionals are not reports at all, they are not propositions with truth values. Yet the above argument is more from a philosophical point of view, but less concerned about the linguistic aspect of the conditionals.

Lijie Xu (2005) explores the subjectification process in the if-conditional constructions in English by comparing three different kinds of conditionals: prototypical, epistemic and speech-act. Lijie Xu's thesis, following Traugott's subjectification theory, establishes a model for the analysis of subjectification of if-conditional constructions called "four-dimensional correlated continuum of subjectification" on the basis of cognitive, psychological and linguistic structure.

For prototypical if-conditional construction		For epistemic and speech-act if-conditional constructions	
Dimensions	Features	Dimensions	Features
Logical	Logical condition	Logical	psychological condition
Semantic	Direct causal relation	Semantic	Indirect causal relation
Syntactic	Restricted syntactic form	Syntactic	Free syntactic form
Pragmatic	Mono-pragmatic function	Pragmatic	Multi-pragmatic function

(Lijie Xu, 2005)

Table 6

The expansion from the prototype to the other two conditional constructions actually shows the subjectification of the conditionals in English.

Sweetser (1990) attribute the reason of people using conditional sentences to the fact that the speaker's epistemic world is not available for direct examination by the addressee, and hence the speaker can not refer to it so causally as to the common external world. Such a psychological drive is applicable to all language users, including Chinese speakers.

2.1.4.4 Conditional as a Typical Irrealis Modal Sentence

The application of realis/irrealis into the linguistic studies shed some light on the seemingly complicated features of conditionals in Chinese.

It has been unanimously agreed by linguists home and abroad that conditionals, no matter in Chinese, English or other languages, are regarded as irrealis modal sentences. Xueping Zhang (2008) even regards conditional as a typical example of irrealis modal sentence. This point can be proven from both semantic and syntactic perspectives.

The semantic feature of irrealis modal is summarized by Xueping Zhang (2008) as

follows:

$$[irrealis] = [unrealized] \vee [undetermined]$$

[Unrealized] and [undetermined] are disjunctions in that whenever one or both of them are satisfied, a sentence is regarded as of irrealis modal. In terms of logic, conditionals are based on a certain hypothesis or assumption, so they are undetermined. In terms of temporal features, conditionals are always related to events or conditions that are not realized yet. Therefore, semantically it falls under the category of irrealis. And since both the two standards are met, it shows a high degree of irrealis.

The syntactic features of irrealis modal vary. Yet there are several syntactic structures which we can find in most of the papers on the Chinese irreal sentences. These structures include: verb reduplication (VV-structure), the use of aspect markers, non-referential property of indefinite noun (phrase) as object. Verb reduplication is never used in a self-sufficient[14] realis sentence, but can be applied to a self-sufficient irrealis sentence. Rui Guo (1997) pointed out that when a dynamic verb fills the place of predicate, an irrealis sentence is still legitimate without using temporal elements, such as *le*(了), *guo*(過), *zhe*(著), *zai*(在) and *zhengzai*(正在). But the same rule does not apply to realis sentences.Without these temporal elements, they will be ungrammatical. An indefinite noun (phrase) as object of a realis sentence must have a referent. In contrast, in an irrealis sentence, such a noun can have either referential property and non-referential property, and mainly the latter. We can find examples in conditionals which can meet the above syntactic requirements.

✧　　　verb reduplication (VV-structure)

(54)如果你鍛煉鍛煉，身體會好起來的。

　　　Ruguo　ni　　duanlian-duanlian,　shenti　hui　hao　qi-lai　　de.

---

[14] A self-sufficient sentence refers to one which can stand by itself even without context. Detailed discussions on this concept are included in Yang He (1994), Lingda Kong (1994), Nansong Huang (1994), Qingzhu Ma & Hongqi Wang (2004), Yi Chen (2007) and Xueping Zhang (2007).

<div align="center">

if   2S   exercise-exercise   body   will   good   up-come   PRT

</div>

If you do some physical training, you will get better.

✧   the use of aspect markers

(55)他要是來（了），這事就好辦了。

Ta   yaoshi   lai   (le)   zhe   shi   jiu   hao   ban   le.

3S   if   come   (LE)   this   matter   then   good   deal   PRT

If he comes, things will become easier.

✧   non-referential property of indefinite noun (phrase) as object

(56)你如果辭退一個人，你的公司就會有起色。

Ni   ruguo   citui   *yi-ge-ren*,   ni   de   gongsi   jiu   hui

2S   if   fire   one-CL-person   2S   DE   company   then   will

you   qise.

have   progress

If you fire one of your employees, your company will be able to make progress.

Since conditionals can meet both the semantic and syntactic requirements for irrealis modal, it is no surprise that such sentences are regarded as a typical example of irrealis modal.

2.2 Some Basic Concepts about CFCs

In the previous sections, we have discussed some of the important properties concerning conditionals. Based on these, we will briefly discuss some of the essential properties of the CFCs. They are a subset of conditionals. Moreover, it is a special subset, i.e. they possess features which are different from other conditionals.

2.2.1 Definitions

CFCs are conditional statements in which the protasis is deemed to be false, e.g. 'If Waldo were rich, he'd live in Las Vegas'. CF are usually written into the form of "if p then q", and as "p >q" rather than "p ⊃ q[15]", because they are not truth functional.

In fact, CFCs can only be evaluated relative to some notions about what the world might be like if certain things were to change. Based on this observation, philosophers such as Lewis (1973) and Stalnaker (1968) modeled CF using the possible worlds semantics of modal logic. The semantics of a conditional $\psi > \varphi$ are given by some function on the relative closeness of worlds where ψ is true and φ is true, on the one hand, and worlds where ψ is true but φ is not, on the other.

Zeevat (2005) defined it from the perspective of dynamic context. In his paper, CF is properties of information states. Given information may support a CF sentence or not. There are two mechanisms involved in the information states, namely the possibility of adding new information to the state and a relation |= between the state and formulas expressing that the information expressed by the formula is contained in the information state. It is then possible to define:

A CFC $A \rightarrow B$ is supported by an information state *IS* iff *IS* + *A* |= *B*.

If this is all there is, the assertion of a CFC in a conversation only gives information about the speaker: he could not have found out that A without having to assume B. The hearer cannot just add the CF if his information state lacks that property. But the hearer can ask the speaker for explanation. In this respect, it is rather like the assertion of an epistemic possibility: it only gives information about the speaker.

The above definitions are applicable for the CFCs across all languages. Yet, since

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[15] The horseshoe symbol (⊃) is used to indicate the logical relation of entailment. It can be replaced by → and still means the same. Since counterfactual conditionals are a special kind of conditionals whose truth value cannot be calculated through the truth table of an indicative conditional, the horseshoe symbol is not appropriate, so ">" is used instead.

the focus of this dissertation is on Chinese CFCs, we will examine some of the definitions by Chinese linguistics on Chinese conditionals.

Li Wang (1943) quoted some examples from "the Dream of Red Chamber" to prove that although in most cases the sub-clause of a conditional can refer to an event or a condition that has not been realized yet, in some cases, they can also refer to events that are opposite to reality. However he did not make any further analysis on the examples he quotes.

Shuxiang Lü (1942/1982) made a similar statement as Li Wang. But he added that the differences between conditionals and CFCs are of more significance in Indo-European languages than in Chinese. The reason lies in that the verbs in these two different conditionals are in different forms. But in Chinese, this difference will not affect the syntactic property of a sentence.

Yuen Ren Chao's (1968) idea coincided with Shuxiang Lü's. He implied that Chinese uses lexical tools to mark counterfactuality. He formed the most frequently used hypothetical conjunctions into a hierarchy and tries to prove that the conjunctions with lower possibility are those that are more frequently used in CF sentences.

Weixian Wang et al. (1994) summarized four kinds of special conditionals based on the semantic and structural features. CFCs are included in them. They point out that the major functions of CFCs are, first to rebuttal, and second, to emphasize.

Fuyi Xing (2001) did not treat CF as an independent category. Instead, he discussed the use of "*yaobushi*(要不是) p, *jiu*(就) q", taking it as a special kind of conditional sentence. The way that he dealt with CF shows that he also considered conjunctions as important CF marker.

Yan Jiang (2000) defined CF as sentences that can convey the meaning that runs contrary to the facts. The facts here do not necessarily refer to the objective reality. They

can also refer to what the speaker or the subject of the sentence believes. [16]

Although Chinese CFCs are mentioned, directly or indirectly in grammar books or papers on the topic, there have been only a few papers which tried to give a systematic introduction to this linguistic phenomenon, notably Guohua Chen (1988) and Yan Jiang (2000). The reason is simply because, as Bloom (1981) maintained:

"The Chinese language has no distinct lexical, grammatical, or intonational device to signal entry into the CF realm", they "do not have at their disposal already prepared schemas for interpreting information in a CF way".

Yet the language can still express CF propositions, which is used frequently and is clearly perceived.

2.2.2 CF Sentence as Subjectivised Construction

Schwenter (1999) pointed out that the logical approaches, due to their only interest in the truth conditions of the conditionals, had limited their focus to conditional sentences outside of the discourse contexts in which they appear. Akatsuka (1986) criticized that the major concern of logic approaches had been truth-value, virtually no attention had been paid to the speaker's attitude towards the protasis and the apodosis, which plays an important role in the interpretation of if-conditionals in discourse.

The above comments remind us that new findings may be made if conditionals can be examined from non-truth conditional perspectives, among which, subjectivity is an important notion. Since CF sentences also fall under the category of conditionals, these comments are also applicable to them. CF conditionals, just like indicative conditionals are subjective, because CF sentences do not refer to the real world or to facts. CFCs are

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[16]Jiang's(2000) original definition is like this:本文所討論的違實句 counterfactuals，指的是能夠傳遞與事實相反的意義的語句。事實並不一定是客觀的事實，也可以是說話者或者句子主語所指稱得跟人的主觀所相信的事實。

used in communication as advice, inducement, persuasion and dissuasion, and speakers use conditionals to try to influence the beliefs and actions of their listeners by shaping their hypothetical thought about possibilities. Such sentences are the traces of the speaker's reasoning that has been left over.

There have already been studies done on the relationship between subjectivity/subjectification and conditionality, including Lijie Xu's (2005) PhD dissertation "Conditionals and Subjectification: A Cognitive Approach to the Study of English If-Conditional Constructions" and Nikiforidou & Katis's (2000) "Subjectivity and Conditionality: The Marking of Speaker Involvement in Modern Greek".

Lijie Xu (2005) showed that the subjectification process of if-conditional constructions is a gradient phenomenon. Nikiforidou and Katis's paper examined conditionals introduced by *ama*, *ean* and *na*. They argued that the choice of one conditional marker over the other, far from being truth-conditionally controlled, reflected the speaker's construal of the situation expressed in the protasis as being of a particular nature. They claimed that the construal of the protasis by all three markers fell under what Langacker (1990) called a *subjective* construal or an *egocentric* viewing arrangement. All three markers coded a relation of the protasis to the speaker.

2.2.3 Modality and CFC

Modality is traditionally classified into two categories: epistemic and deontic. Epistemic modality has to do with knowledge, as in (57), while deontic modality has to do with right and wrong according to some system of rules, as in (58):

(57) She must be in bed.

(58) She must go to bed now.

We also see some improved classifications based on the epistemic/deontic distinction. For example, Portner (2009) proposed three primary categories of sentential

modality: epistemic[17], priority[18], and dynamic[19]. In spite of the differences in classification, many linguists nowadays agree with Sweetser (1990) that historically epistemic meanings typically derive from non-epistemic ones. Epistemic modal is always associated with subjectivity, while non-epistemic modal is always associated with objectivity.

Modality is realized in the form of modal verbs and modal adverbs. Epistemic modal verbs in Chinese include *neng*(能), *hui*(會), *keneng*(可能), *keyi*(可以) and *yinggai*2(應該)[20]. They can be found in the apodosis of the CFCs.

(59)如果不是前年凍害，去年就<u>能</u>掛滿果了。

Ruguo	bushi	qian-nian	donghai,	qunian	jiu	then	gua
if	NEG	before-year	winter injury	last year	then	can	hung

man	guo	le.
full	fruits	PRT

If it had not been the winter injury the year before last, there would have been a harvest last year.

(60)要是沒有李主任幫忙，我們集資<u>會</u>遇到很多麻煩的。

Yaoshi	meiyou	li	zhuren	bangmang,	women	jizi	hui
If	NEG	Li	director	help	1PL	raise fund	will

yudao	henduo	mafan	de.
meet	many	trouble	PRT

Without Director Li's help, we would have had a lot of difficulties in fund raising.

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[17] Epistemic modals are those pertaining to the speaker's knowledge (Portner, 2009).
[18] Priority modals include the deontic, bouletic, and teleological modals (Portner, 2009).
[19] Dynamic modals also involve circumstantial modal bases and fall into two sub-groups: volitional and quantificational (Portner, 2009).
[20] *Yinggai*(應該) has both epistemic modal interpretation and deontic modal interpretation.

(61)要不是因為他身上的氣味令周圍的人無法忍受，他應該可以成為一位出色的談判家。

Yao	bushi	yinwei	ta	shen-shang	de	qiwei	ling	zhouwei	de
if	NEG	because	3S	body-on	DE	odor	make	around	DE

ren	wu	fa	renshou,	ta	yinggai	keyi	chengwei
people	NEG	method	endure	3S	should	can	become

yi-wei	chuse	de	tanpanjia.
one-CL	brilliant	DE	negotiator.

If it were not for his unbearable body odor, he should have become a brilliant negotiator.

<div align="right">(CCL Corpus)</div>

Epistemic modal adverbs include *zhun*(准), *gai*(該), *zhunbao*(准保), *yiding*(一定), *biding*(必定), *kongpa*(恐怕), *yexu*(也許), *xingxu*(興許) etc. Here are some examples:

(62)如果不是這封信，他准被編入無名遇難者名冊之中。

Ruguo	bushi	zhe-feng	xin,	ta	zhun	**bei**	bian	ru
if	NEG	this-CL	letter	3S	must	**BEI**	put	into

wuming	yunanzhe	mingce	zhi-zhong.
anonymous	victim	name list	ZHI-into

If it were not for this letter, his name would have been put on the name list of the anonymous victims.

(63)若不是今天這大風，廟會准保更熱鬧。

Ruo	bushi	jintian	zhe	da	feng,	miaohui	zhunbao
if	NEG	today	this	big	wind	temple fair	must

geng	renao.
more	exciting

If it were not so windy today, the temple fair must be more exciting.

(64)我要不是上了年紀，<u>一定要跟隨你們造反去</u>。

Wo   yao bushi   shang   le   nianji,   yiding   yao   gen   nimen

1S   if   NEG   up   LE   age   must   will   follow   2PL

zaofan   qu.

rebel   go

If I were not getting along in years, I definitely would go to rebel with you.

(CCL Corpus)

CHAPTER THREE   LITERATURE REVIEW

In the 1980's, the investigation by Bloom (1981) on the use of CFCs in Chinese aroused linguists' debate on whether there were CF markers in Chinese.

Bloom is an American psychologist and linguist. In the 1970s, he conducted a psychological research investigating the Sapir-Whorf hypothesis. He concluded that because of lack of CF words in Chinese, Chinese speakers have reduced ability to think counterfactually.

While carrying out a research in Hong Kong, Bloom raised the following questions to the survey respondents:

 (1) "If the Hong Kong government were to pass a law requiring that all citizens

   born outside of Hong Kong make weekly reports of their activities to the police,

   how would you react?"

   or

    "If the Hong Kong government had passed such a law, how would you have

   reacted?"

The answers he got were as follows:

 (2) "But the government has not;"

   "It can not;"

   or "It will not."

They were quite different from the answers given by the Westerners, such as Americans or French people. Therefore, Bloom (1981) proposed such a hypothesis as the one stated at the beginning of this chapter.

To prove his idea, he designed four experiments, which included three stories and one sentence. The three stories, all in both Chinese and English, contained many sentences with subjunctive moods, and were followed by reading comprehension

questions. The results showed that English native speakers had a much higher accuracy rate than that of Chinese native speakers.

The last sentence he used in his test is repeated here:

(3) If all circles were large, and this small triangle Δ were a circle, would it be large? (English version)

假如所有的圓圈都很大，如果這個小三角形" Δ "是一個圓圈，那麼這個三角形是不是很大? (Chinese version)

There were 83% of the American interviewees who responded positively to the English question, while only 25% of the Taiwanese provided a positive response to the Chinese version.

Bloom said that the Chinese language did not have the means to express such situations, and that "intellectual climate" has suffered as a result. He wrote:

"*Historically speaking, the fact that Chinese has not offered its speakers incentives for thinking about the world in counterfactual and entificational[21] ways is likely to have contributed substantially to sustaining an intellectual climate in which these modes of thinking were less likely to arise.*"   (Bloom, 1981)

Bloom was not the first one to ponder over the relationship between the structure of Chinese language and Chinese people's way of logical thinking. Graham (1971) and Needham et al. (1954) both commented on the same topic. However, Bloom was definitely the first one who explored the specific linguistic phenomenon of CFCs in Chinese and tried to discover the effects of it on the cognitive lives of native speakers. Another noteworthy point about his research is that Bloom refused to depend solely upon his language intuition to pontificate about "Chinese CFCs" and "Chinese speaker's ability of CF reasoning". Instead, he adopted quantitative methods (such as questionnaires) and dealt with the statistics very carefully so as to add precision to the

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[21] Bloom's way of saying "nominalization".

final conclusion.

Bloom's conclusion has been consistently challenged by Chinese linguists since the day his book was published. Kit-fong Au (1983) criticized the way that Bloom designed his experiment. According to Au, misunderstanding about the Chinese stories arises as a result of the translation from the original English version to the Chinese version. To provide evidence for her own hypothesis, Au conducted another experiment, where she wrote stories in a more idiomatical way and found that Chinese bilinguals were also able to reason counterfactually. Jing Shao (1988) found the weakness of the methodology adopted in Bloom's study. He pointed out Bloom's failure to consider cultural variables which could have so much influenced the subjects' performance. He expressed his doubts in the following two aspects. First, in the research of linguistic relativity, there should be an objective standard of comparison for analysing and describing different languages. Second, the influence of different languages on the reasoning of its respective speakers should be examined from the interaction of different structures within a certain language system. Since Bloom could neither provide an objective standard, nor provide any structural analysis of the CFCs, he therefore failed to prove Whorfian hypothesis. Yan Jiang (2000) expresses doubts on Bloom's claim that the CF structures in Indo-European languages exist independent from the contexts. Yan Jiang denies that the CF markers can determine the reading of a sentence. Both in Chinese and in English, CF interpretation is obtained through pragmatic inference.

Even now, there has been no definite answer as to whether or not CF markers exist in Chinese. Although very few Chinese linguists would agree with Bloom on his hypothesis that the lack of linguistic means to mark counterfactuality in Chinese influences the cognitive behavior of speakers of Chinese —making them less likely to reason counterfactually, it is still difficult to pinpoint a set of salient markers in Chinese, either lexical, grammatical or intonational. Subsequent discussions mainly focused on

whether or not in Chinese there are CF markers. Detailed descriptions of the properties of individual markers have been given, yet there has not been a systematic account of counterfactuality in Chinese not to mention formal accounts.

The study on CFCs in China went through three stages. The early stage (before 1980s) witnessed CFCs beginning to be recognized as standing out from other kinds of conditional sentences. And with the publication of Bloom's work (1981), the linguists of the middle stage attached more importance to the structural difference between Chinese and English, focusing on the grammatical features of Chinese CFCs. The studies of the recent stage have presented a more diversified view of the topic with linguists' attempts to explore the issues through a variety of paths, i.e. realis/irrealis dichotomy, cognitive experiments and formal semantic/syntactic perspectives.

3.1 Early Stage (before 1980s)

CFCs were not identified as a separate category at the very beginning. Jingxi Li (1924) included subjunctive conditionals[22] and romantic hypothesis[23] in the extended category of conditionals without further division. His example sentences of conditionals include the following CFC:

(4) 如果人類能夠生出翅膀來，那麼也就可以在高空中飛了。

Ruguo	renlei	nenggou	sheng chu	chibang	lai,	name	ye
if	human being	can	grow-out	wing	out	then	also

jiu	keyi	zai	gao	kong	zhong	fei	le.
then	can	in	high	sky	in	fly	PRT

If human beings had wings, they could fly high in the sky. (Jingxi Li, 1924)

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[22] Jingxi Li referred to it as "虛擬的條件".

[23] Jingxi Li referred to it as "浪漫的假想".

Later, developments were achieved in the distinction of CFCs from other types of conditionals in Chinese. Li Wang (1985) acknowledged that while most of the conditional protasiss referr to unrealized facts, they occasionally can refer to the opposite of reality. Three CFCs were cited as examples to exemplify this special subcategory:

(5) 若不說出來，我見了這個也不認得這是做什麼用的。

Ruo	bu	shuo	chulai,	wo	jian	le	zhe-ge	ye	bu
if	NEG	say	out	1S	see	LE	this-CL	also	NEG

rende	zhe	shi	zuo	shenme	yong	de.
know	this	be	do	what	purpose	PRT

If I had not been told, I would not have recognized what it had been made of even if I saw it. (Actually it was told.)

(6) 要不說姨夫叫你，你哪裡肯出來的這麼快？

Yao	bu	shuo	yifu	jiao	ni,	ni	nali	ken
if	NEG	say	uncle	call	2S	2S	where	willing

chulai	de	zheme	kuai?
turn up	DE	so	fast

If I had not told you that you uncle called you, how would you have turned up so quickly? (Actually I told you that.)

(7) 早知道是這樣，我也不該去求他的。

Zao	zhidao	shi	zheyang,	wo	ye	bu	gai	qu	qiu
already	know	be	this	1S	also	NEG	should	go	beg

ta	de.
3S	PRT

If I had known about it, I should not have begged him. (Actually I did not know it was like that.)

Shuxiang Lü (1942/1982) proposed the possibility of identifying hypothetical clauses and conditional clauses based on whether the "condition" is realized or not. The former contains conditions that can be realized, for example:

(8) 你要是見到他，給我傳個信，說我回來了。

Ni	yaoshi	jiandao	ta,	gei	wo	chuan	ge	xin,	shuo
2S	if	see	3S	give	1S	send	CL	message	say

wo	hui	lai	le.
1S	back	come	PRT

If you see him, tell him that I'm back.

(9) 要是你不認識他，我可以給你一封介紹信。

Yaoshi	ni	bu	renshi	ta,	wo	keyi	gei	ni	yi-feng
if	2S	NEG	know	3S	1S	can	give	2S	one-CL

jieshao	xin.
recommendation	letter

If you do not know him, I can write a letter of recommendation for you.

The conditions contained in the latter are contrary to the known facts. Such as:

(10) 我要不相信你，我就不會把這個話告訴你了。

Wo	yao	bu	xiangxin	ni,	wo	jiu	bu	hui	ba
1S	if	NEG	believe	2s	1S	then	NEG	will	BA

zhe-ge	hua	gaosu	ni	le.
this-CL	word	tell	2S	PRT

If I did not trust you, I would not have told you about it.

(11) 要是我認識他，我何必還來求你介紹。

Yaoshi	wo	renshi	ta,	wo	hebi	hai	lai	qiu	ni

if	1S	know	3S	1S	why	still	come	beg	2S

jieshao.

introduce

If I knew him, why on earth had I begged you to introduce me to him?

So, this second type of clause equals CFCs in our discussion. Unfortunately, his discussion on hypothetical clauses abruptly stops here without any further analyses, because Shuxiang Lü believed that unlike in Indo-European languages, these two different types of clauses do not diverge significantly in terms of syntactic structure.

A significant achievement made during this stage was that some of the linguists began to realize that CFCs were different from other members of the conditional family. However, most of them did not regard it either meaningful or useful to establish it as a separate category, and therefore no further explanations were made.

3.2 Middle Stage (mid 1980s to early 2000s)

Bloom's (1981) claim that Chinese does not have means to express CF meanings ignited Chinese linguistic circle's enthusiasm for the exploring of CF markers in Chinese. Some linguists in this stage, including Jing Shao (1988), Guohua Chen (1988) and Yan Yan Jiang (2000), attempted to find the answer through a comparative study between Chinese and English CFCs. Some linguists, such as Weixian Wang et al. (1994) and Fuyi Xing (2001), gave an external explanation of CFCs. Like some of the linguists in the previous stage, they analyzed CFCs as a compound sentence under the category of conditionals. But unlike their predecessors, their classification norms differ. Jiaxuan Jiaxuan Shen (2003) described the semantic relations of different kinds of compound sentences in Chinese by using conceptual metaphor, which also brought us some inspirational thoughts.

3.2.1 Guohua Chen (1988) and Yan Jiang (2000)

Guohua Chen (1988) tried to summarize the Chinese CF markers through a comparison between English and Chinese. According to his observation, CF meaning in English conditionals is realized through *backshifting* of tense (Quirk et al., 1985). Although Chinese uses *aspect*, instead of *tense*, to indicate time, *aspect* is related to CF meaning in the same way in Chinese as *backshift* of tense does to CF meaning in English, only less obviously. He then showed that CFCs are indicated in Chinese by:

a.   the unmarked verb form in the conditional clause with past completive reference;

b.   deictic words like *zao*(早)；

c.   the particles *ne*(呢) and *le*(了) at the end of a main clause;

d.   certain conditional subordinators, especially *yaobushi*(要不是)；

e.   sentence stress on the conditional subordinator.

He concluded that grammatically unmarked hypothetical conditions exist in both English and Chinese.

Those CF markers that he summarized in his paper are a breakthrough in the study of Chinese CFCs. He was the first one who gave such a comprehensive formal picture of CFCs. Before his research, most linguists simply took them as a subcategory of conditionals, and tried to define it or offer example sentences, yet without concerning about the structures that will lead to CF reading.

On the other hand, although part of the reason for generating counterfactuality were sorted out, no further explanation was made on how these factors interact with each other and function as a system, since such kind of explanation needs to be backed up by a huge system of theories.

Yan Jiang (2000) approached CFCs from a pragmatic perspective and attributed the

CF meaning of a clause to implicature generated from pragmatic inference.

Yan Jiang was not alone. In fact, as early as in 1988, Neil Smith and Amahl Smith published a paper on the account of conditionals from Relevance Theory (RT) perspective (Smith and Smith, 1988). The many problems caused by interpreting conditionals as material implication can be solved by the interaction of simple semantic and pragmatic constructs. Material implication is the semantic input, while the pragmatic input is accommodated by the use of RT. According to Smith and Smith (1998), when a CFC is being processed, the protasis almost always contradicts some assumption of the hearer's. Those incompatible statements will be eliminated from the context, and the new context constructed will be ideal for maintaining the consistency between the relationship contained in the CFC and the context against which the sentence is interpreted. They also claimed that indicative conditionals and CFCs are truth-conditionally the same. They share a single propositional form, but belong to different levels of a single scale encoding the strength of the commitment to the context-setting protasis. The following group of sentences was used to support this point:

(12)　a. If John comes tomorrow, I shall be pleased.

　　　　b. If John came tomorrow, I should be pleased.

　　　　c. If John were to come tomorrow, I should be pleased.

　　　　c'.Were John to come tomorrow, I should be pleased.

　　　　d. If John had come tomorrow, I should have been pleased.

　　　　e. If John had come tomorrow, I might have been pleased.

(Smith and Smith, 1998)

In each of the above case, the hypothetical conjunction *if* is the same. There are only morphological variations caused by different modality and tense. Therefore, they differ pragmatically.

Yan Jiang basically followed Smith and Smith's path, but he went even further. He applied the relevance-theoretical account of CFs to Chinese CF sentences.

He observed that two features are common to Indo-European languages, namely fake tense and fake aspect. Yet these features are not CF-specific, because they are also applicable to factual and semifactual conditions[24]. He then turned to Chinese and, based on Guohua Chen (1998), he proposed six features in Chinese, which include fake tense, fake aspect, sentence-final particle *le*(了), *zhende*(真的) as adverb, negation in the protasis and contraposition. But he came to a different conclusion from Guohua Chen's. His belief that neither in Chinese nor in English the so-called CF markers are CF specific can be supported by the following sentence:

(13) If Oswald had not killed Kennedy, then someone else would have. (Barwise, 1986)

This well-known example discussed earlier in Barwise (1986) is ambiguous and can be interpreted either as a CFC or as a factual conditional. If so, what leads to CF meaning? Yan Jiang thought it would be explicature.

The CF markers serve simply as *pragmatic shortcut* to triggering counterfactuality. According to the Principle of Relevance in RT, the addressee, by integrating discourse background, his encyclopedic knowledge and the pragmatic inference triggered by CF markers, may obtain implicature (or the truth value) of an utterance and its explicature (or the CF meaning).

RT provides a brand new perspective on the research of generation mechanism of CFCs. Explicatures derived by pragmatic inference can best explain the indeterminate relationship between CF markers and CF reading and the phenomenon that even without markers counterfactuality may occur on some occasions. It also reveals to subsequent

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[24] Guohua Chen (1988) also briefly mentioned that present-tense or future-tense counterfactuals may coincide with past-tense open conditionals.

researchers that focusing solely on some specific features might not lead to a satisfactory result. Further, the attempt of researching into CFCs without considering context may turn out to be fruitless.

However, RT, which explains verbal communication, tends to be too general when dealing with some concrete linguistic phenomena. In most cases, the theory is applied to a macro-level analysis that abounds in generalities and guidingness, yet lacks operability and specificness. Within the framework of RT, the function of CF markers can be described as encoding procedural information. But as to how to capture the difference between Chinese and English CFCs, or how CF markers interact with context information to generate CF meaning, the theory is incapable of providing powerful answers to these questions unless help is sought from other theoretical tools.

3.2.2 Weixian Wang et al. (1994), Fuyi Xing (2001) and Jiaxuan Shen (2003)

Besides comparing Chinese CFCs with their English counterparts, some linguists during this period, such as Weixian Wang and Fuyi Xing, examined the issue with reference to its status in and relationship with other types of compound sentences.

Weixian Wang et al.'s (1994) classification of Chinese compound sentences was based on the use of conjunctions and strictly adhered to a binary division. It can be demonstrated by the following diagram.
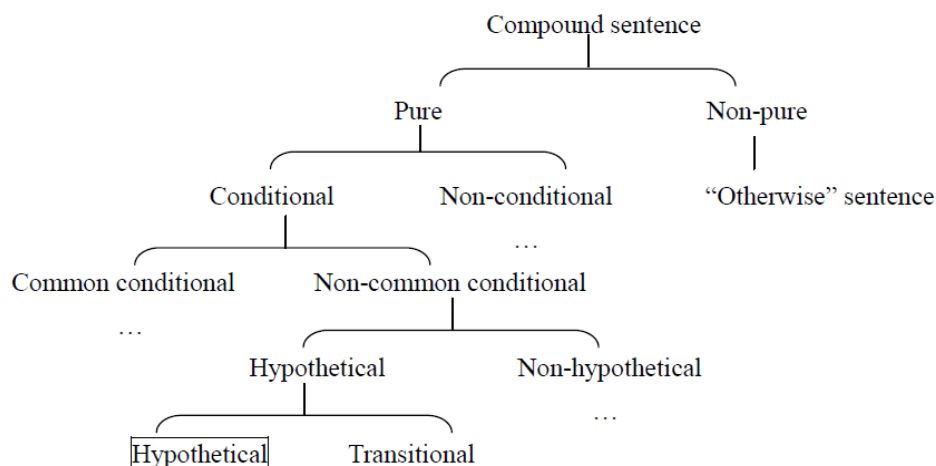
Figure 2

They believed that the logical semantic relations reflected on the choice of conjunctions are consistent with the syntactic features of the compound sentences and therefore it is the best way to distinguish different kinds of compound sentences. They regarded hypothetical conditionals a subcategory of conditionals, and unlike common conditionals, they stressed on the realization of result B (the apodosis) given the hypothetical condition of A (the protasis). Condition A is not to be affirmed as a fact, but just loosely refer to the relationship between A and B. CFCs were therefore taken as a special case in the category of hypothetical conditionals.

According to Weixian Wang et al. (1994), there are two features of CFCs compared with other conditionals. First, the A clause introduced by the conjunction *ruguo*(如果) is not a fact, or is believed to be a negated fact; B clause expresses a result which does not exist or is fake. Second, such conditionals are mainly used to disprove and to emphasize. They used the following sentence as one of the examples to illustrate CF's function of disproof:

(14)　如果語言是生產工具，那麼誇誇其談的人就是最富有的人了。

　　　Ruguo　　yuyan　　shi　　shengchan　　gongju,　　name　　kuakuaqitan　　de

　　　if　　　　language　　be　　production　　tool　　　then　　rhetoric　　　　DE

ren	jiu	shi	zui	fuyou	de	ren	le.
person	then	be	most	rich	DE	person	PRT

If language is an instrument of production, then those who indulge in verbiage are the wealthiest of all. (Weixian Wang et al., 1994)

Since it is a fact that those who indulge in verbiage are not the wealthiest, and therefore language is not an instrument of production. The conclusion is thus drawn because of the principle of contraposition. Yet, further considerations need to be made on this point. Lewis once explained why contraposition does not apply to CFCs. $(P\square\rightarrow Q)$[25] requires that the nearest P-world be a Q-world. If the nearest Q-world were nearer than the nearest P-world, then it would follow that $(\neg Q\square\rightarrow\neg P)$. But it could be that the nearest $\neg$Q-world is further away still (i.e. further away than the nearest P-world). But then it would not follow that such a world must be a $\neg$P-world.

Weixian Wang et al. used binary branching system to categorize conditionals, which is flexible and capable of dealing with complicated types of sentences. New types can be added to or old types can be removed from the tree, and the relationships between different types are obvious. However, this method leads to more than a dozen of layers and the number of types of complex sentences can be up to 37. Such a detailed taxonomic classification seems to require more explanatory motivation.

Another new aspect in their research is that they made a logical semantic analysis of compound sentences in Chinese and based the classification on it. It has been a common practice in English, but was rarely used by Chinese linguists, not to mention to do it in a systematical way. Chao (1959) only briefly mentioned it, but without detailed elaboration.

Weixian Wang et al. proposed a unified standard, but not without problems. Unlike in English, where conjunctions have one-to-one strict correspondence with logical

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[25] $\square$ may be read as "It is necessary that" to indicate the modal concept of necessity.

operators, the relational meaning expressed by Chinese conjunctions is less restricted and more flexible[26]. Given the differences between Chinese and English in terms of presentation methods, their way of classification is debatable. Some conjunctions in Chinese, such as *ruguo*(如果), are ambiguous. And in some circumstances, the relationship is not conveyed through a certain concrete conjunction, but through other means.

Fuyi Xing (2001) adopted a tripartite division for compound sentences in Chinese. His classification (Figure 3) is based on the logical relations between clauses, yet still keeps an eye on language form.
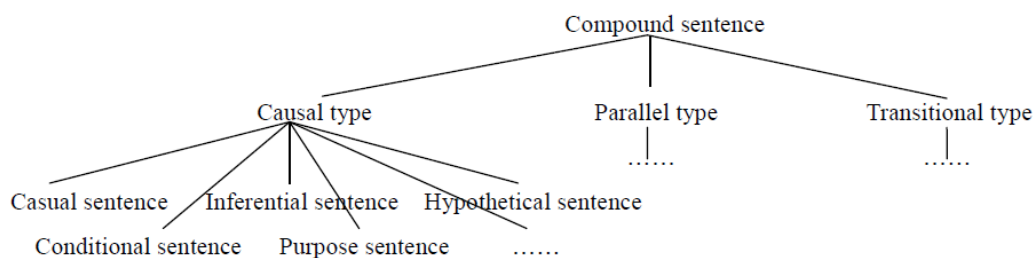
Figure 3

Compared with the binary division system, the tripartite system has three advantages: more verifiable, more systematic and more accountable (Fuyi Xing, 2001).

In Fuyi Xing's system, CFCs are a branch of hypothetical sentences. He regards *yaobushi*(要不是)...*jiu*(就) as a typical conjunction for such kind of sentences. *Yaobushi*(要不是) equals *ruguobushi*(如果不是), except that the former is a more fixed expression. Fuyi Xing seems taking *yaobushi*(要不是) as the only conjunction for CFCs given that none of the other hypothetical conjunctions are mentioned in this category. Yet in the discussion of *ruguo*(如果) clause, CF meaning can still be generated from some examples given by him:

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[26] For a detailed formal semantic description of Chinese compound sentences, see [Yan Jiang and Haihua Pan, 2005].

(15) 她原來是可以救活的，如果及時送到醫院的話。

Ta	yuanlai	shi	keyi	jiu	huo	de,	ruguo	jishi
3S	original	EMP	can	save	live	DE	if	in time

song	dao	yiyuan	dehua.
take	to	hospital	if

She could have been saved if she had been taken to hospital in time.

(16) 他戴太太一定是一名導演家，如果是生在現在這個二十世紀五十年代的話。

Ta	dai	taitai	yiding	shi	yi ming	daoyanjia,	ruguo	shi
3S	Dai	Madam	must	be	one-CL	director	if	EMP

sheng	zai	xianzai	zhe ge	ershi	shiji	wushiniandai	dehua.
born	in	now	this-CL	twenty	century	century fifities	if

She, Mrs. Dai, must have been a director if she had been born in the 1950s.

(Fuyi Xing, 2001)

If *ruguo*(如果) is excluded from the list of CF conjunctions, but the examples quoted containing *ruguo*(如果) can still express CF meaning, it is obviously self-contradictory.

Jiaxuan Shen (2003) followed Sweetser's division of content, epistemic modality and speech acts in study of English compound sentences and divided Chinese compound sentences into three kinds based on three conceptual domains, namely acting, knowing and uttering[27]. This division not only is useful in explicating the semantic relations of various compound sentences in Chinese, but also can clarify many problems in previous studies where this distinction is not applied. Although his study involves all the compound sentences in Chinese, including causal sentences, transitional sentences and parallel sentences, our attention will be only on conditionals so as to serve the goal of

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[27] 行、知、言 in Chinese respectively.

our discussion.

The tripartite separation of conditionals in Chinese can be illustrated by the following examples:

(17)　如果明天下雨，比賽就取消。【行域】

　　　Ruguo　mingtian　xiayu,　bisai　jiu　　quxiao.

　　　if　　　tomorrow　rain　　match　then　cancel

　　　If it rains tomorrow, the match will be canceled. (Acting)

(18)　如果比賽取消了，昨天就下雨來著。【知域】

　　　Ruguo　bisai　quxiao　le,　　zuotian　jiu　　xiayu　laizhe.

　　　if　　　match　cancel　LE　　yesterday　then　rain　　laizhe

　　　If the competition was cancelled, it is because it rained yesterday. (Knowing)

(19)　如果比賽真的取消，太陽就從西邊出來了。【言域】

　　　Ruguo　bisai　zhende　quxiao,　taiyang　jiu　　cong　xibian　chulai　le.

　　　if　　　match　really　cancel　sun　　　then　from　west　　rise　　PRT

　　　If the competition were really cancelled, then the sun would rise from the west.

　　　(Uttering)

(Jiaxuan Shen, 2003)

The *ruguo*(如果) conditionals are so classified, because they obtain different semantic features (Jiaxuan Shen, 2003):

— Acting: the occurrence of *p* is the sufficient condition for the occurrence of *q*;

— Knowing: knowing that *p* is the sufficient condition for the conclusion that *q*;

— Uttering: state *p* is the sufficient condition of my claim of *q*.

— (The sufficient condition in the conceptual domain of uttering is in fact a "felicity condition"[28].)

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[28]　Austin (1964) defined felicity conditions as:

(A) i. There must be a conventional procedure having a conventional effect.

Given this division, we are more interested in the possibility of classifying CFCs in the same way. According to the semantic feature of each type, we can find the corresponding example sentences:

(20)　如果有電，燈就亮了。【行域】

    Ruguo　you　dian,　　deng　jiu　liang　le.

    if　　have　electricity　light　then　bright　PRT

    If there were electricity, the lights would go up. (Acting)

(21)　如果燈亮了，那才是有電。【知域】

    Ruguo　deng　liang　le,　　na　cai　shi　you　dian.

    if　　light　bright　LE　then　only　be　have　electricity

    If we knew that the lights went up, then we could draw the conclusion that there was electricity. (Knowing)

(22)　如果比賽真的取消，太陽就從西邊出來了。【言域】

    Ruguo　bisai　zhende　quxiao,　taiyang　jiu　cong　xibian　chulai　le.

    if　　match　really　cancel　sun　　then　from　west　rise　PRT

    If the competition were really cancelled, then the sun would rise from the west. (Uttering)

（Jiaxuan Shen, 2003）

Some explanations need to be made about the last type above, the example of which is directly quoted from Jiaxuan Shen (2003). Jiaxuan Shen regarded the clause "the sun

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ii. The circumstances and persons must be appropriate as specified in the procedure. (Note that these procedures must be such that verbal action suffices to achieve some effect; compare: *I hereby fry this egg.*)

(B) The procedure must be executed completely and correctly.

(C) Usually,

    i. the persons must have the requisite thoughts, feelings and intentions, as specified in the procedure, and

    ii. if consequent conduct is specified, then the relevant parties must do so.

will rise from the west" as a proposal, which is also a speech act. One of the felicity conditions for this proposal is that the proposition stated in the protasis is something impossible. From context, if there is any, we can draw such a conclusion that the cancellation of the competition is anything but possible. Therefore, it is the felicity condition of the speech act.

But even if counterfactuality is not contained, a compound sentence introduced by *ruguo* may also fall into the category of *uttering*, such as:

(23)　如果你感興趣，我就講個故事。

　　　Ruguo　ni　　　ganxingqu,　wo　　jiu　　jiang　ge　　　gushi.

　　　if　　　2S　　　interested　1S　　then　tell　　CL　　story

　　　If you are interested, I will tell you a story.

Therefore, we can make a conclusion concerning the relationship between conditionals and the three types, i.e. the tripartite separation is applicable to both open conditionals and CFCs. Or, in other words, the two types of conditional are not distinguishable from each other under this framework.

On the other hand, however, it provides us a new perspective to the study of CFCs. Previous researches reach a consensus that the protasis is not true, or is not believed to be true by the speaker. But very few studies will dig into the varying relationships between the protasis and the apodosis. More discoveries will be made if CFCs are not taken as a single type. What is interesting is that, when the protasis is false for being a strong and general contradiction, no subsequent action or knowing apodosis seems to be possible. Only uttering can follow.

3.3 Recent Stage (Since the beginning of the 21st century till now)

The research on Chinese CFCs since the beginning of the 21st century has gone beyond the mere description of CF factors. With linguistics interfacing with a number of

other disciplines, and new concepts being introduced, it is possible for linguists in this stage to carry out their researches from a variety of angles. They have now shifted their focus from "what" to "why" and "how".

3.3.1 Realis vs. Irrealis – Xiaoying Luo (2006), Min Li (2006), Xiaoling Wang

(2007), Xueping Zhang (2008)

One of the most important concepts introduced to the study of Chinese CFCs is the realis/irrealis dichotomy. It was first used by Capell and Hinch (1970) while analyzing the data from the Australian language Maung. Mithun's (1999) definition of realis/irrealis divides the world into real and unreal events and situations. According to him, realis portrays situations as actualized, as having occurred or actually occurring, knowable through direct perception. Irrealis portrays situations as purely within the realm of thought, knowable only through imagination.

Factual/nonfactual is believed by some to be the synonym for the dichotomy. In fact the former is a terminology in truth-conditional semantics, which has something to do with the determination of the truth value of a proposition. If propositions are those that are true in the actual world, these propositions are said to be factual. Otherwise, they are nonfactual. As pointed out by Xiaoling Wang (2007), "Nonfactual is one of the research topics of logical semantics, while irrealis is an investigation of the features of language itself. Therefore, the latter falls under the category of non-logical semantics." Of course, neither of the two dichotomies, realis/irrealis nor factual/nonfactual, center their discussion on conditional sentences.

Irrealis, non-factual and CF are three different concepts. In the discussion of logical meaning of conditional sentences, conditionals are "factual" if the proposition contained in the protasis can be proved to be consistent with the actual world, or is "open" due to

lack of final conclusion. If the protasis of a conditional is proved to be false in the actual world, or can only be true in possible worlds other than the actual world, the conditional is therefore a CF, but not a factual conditional.

In recent years, there have been several PhD dissertations which study realis/irrealis distinctions in Chinese (Xiaoying Luo, 2006; Min Li, 2006; Xiaoling Wang, 2007; Xueping Zhang, 2008). Xiaoying Luo (2006) did not directly introduce this dichotomy, but she discussed the subjunctive category of Chinese. Her *subjunctiveness* does not mean the subjunctive mood, but a semantic-syntactic category and can be identified with irrealis. There are two evidences to support the above statement. First, Xiaoying Luo defined *subjunctiveness* as opposed to *factual*, including "objects, behaviors and properties which are untrue, hypothetical, subjective, or even illusionary". CFCs fall under this category. Second, she discusses in details temporal properties and negation as two factors having a close bearing to subjunctiveness. And since temporal property is one of the most important distinctions between realis and irrealis, while the choice of negator relies on whether the sentence expresses realis or not, her subjunctiveness is identical with irrealis sentences.

Xiaoying Luo's description of CFCs is based on the contrast between possible hypothesis and CF hypothesis. She noticed some CF markers, such as hypothetical conjunctions, absolute past tense, collocation of *le*(了)$_2$ [29] with *zao*(早), collocation of *le*(了)$_2$ with negator. To summarize, her study provides a detailed semantic and syntactic analysis of what she termed the Chinese subjunctive category.

Min Li (2006) aimed at exploring how irrealis can be expressed in different forms in Chinese, such as tense, aspect and negation, and how it is realized on different levels, namely on modality level and on mood level. Three points he claimed are worthy of our

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[29] Many linguists (e.g. Li & Thompson 1981, Shuxiang Lü 1980) divided the Chinese perfective aspect marker le into two types. Le$_1$ occurs immediately after the verb to indicate the completion of an action. Le$_2$ occurs at the end of the sentence to give a "change of state/status" meaning. (Li & Thompson 1981)

attention. First, he admitted that there are discrepancies of representations that irrealis shows across languages and even within a certain language. Yet, these differences are understandable and irrealis has strong universalities in languages. Therefore, its typological status cannot be denied.

Second, Min Li attached special importance to the description of syntactic features and syntactic realization of this universal category. He held that it is the speaker who determines whether or not a proposition falls under the category of irrealis. Every sentence contains modality and a statement is tagged with zero modality. He advanced formal criterion on judging whether a sentence is an irrealis sentence or not, as shown below:

$$S \rightarrow M(P)$$

(S stands for Sentence; M refers to modality and mood; P is Proposition. M is at the peripheral of P.)

If S is not false, then it is assumed that the speaker also regards P as true. And the sentence is thus a realis sentence. If S is false, then it is assumed that either the speaker thinks that P must be not-true, or cannot judge whether P is true or not, and therefore the sentence is an irrealis sentence.

Third, Min Li (2006) regarded CF as a typical example of irrealis sentence. Since such sentence states an event or a condition which never happens in the past, is not happening at present and will not happen in the future, it is therefore included in the category of irrealis. He came to this conclusion because cognitive distance plays an important role in the classification of irrealis. Based on Cognitive Theory, irrealis category is developed out of a prototype, i.e. CF. Other members of the same category share family resemblance with CF, but they are not as typical as CF sentences.
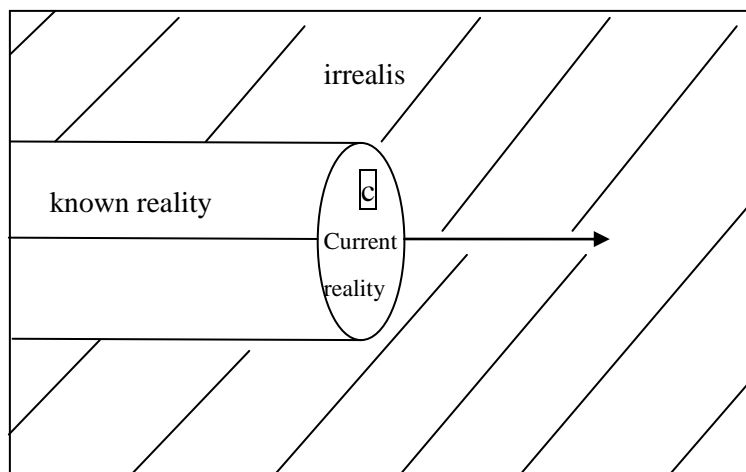
Figure 4

The above figure is borrowed from Langacker (1991) to manifest the cognitive features of irrealis. Irreality can be proximal or distal depending on their distance from the concepualizer (indicated by the symbol of c in Figure 4). Since CF is the farthest irreality from the conceptualizer, it is the most typical example of irreality. And with the development of time (as is indicated by an arrow), irreality can be unknown reality. Therefore, there is no clear-cut line between realis and irrealis—only a gradual shift.

Min Li's research is based on cognitive linguistic theories and it is a great inspiration for the study on Chinese conditionals. In the previous studies concerning CF, some linguists, such as Bloom, claimed that there is no CF marker in Chinese. One of the reasons that led to this conclusion is that there is not such a productive structure as English subjunctive mood in Chinese. CF, as a typical member in the category of irrealis, reflects the characteristics of irrealis. There are discrepancies in the irrealis sentences across languages. Even in one language, the form of such sentences may vary. Irrealis meaning can be expressed by a variety of tools, such as tense, aspect, certain adverbs, negation, and even pronouns. Min Li (2006) stated that these discrepancies are understandable, and irrealis has strong universalities in languages. These rules can be applied to the study of CF. Individual linguistic features need to be studied, based on

which a prototype can be established. Also, the CF markers in English and Chinese are actually "weak features", in contrast to the "strong features" in some African American languages. They are so called because these markers in English and Chinese have multiple interpretations. Although the notion of "weak feature" requires further proof, the universality and diversity of CF expressions shall never be neglected.

Xiaoling Wang (2007) provided an event-based division between realis and irrealis categories. Unlike Min Li (2006) who took irrealis as a semantical-syntactical category, Xiaoling Wang regarded it as a semantic category, because in most languages of the world, it is difficult to find out a set of unified grammatical markers to represent the two categories, especially the irrealis category. Xiaoling Wang (2007) proposed three criteria to divide realis and irrealis: time, sentence pattern, and modality. Her analyses show that future tense, interrogatives, exclamatives and imperatives, and epistemic modality markers are naturally related to irrealis. Just like Min Li, she discussed how the two negative markers in Chinese *bu*(不) and *mei*(沒) interact with irrealis or realis propositions. In our daily use of language, *bu*(不) takes responsibility of negation to irrealis propositions, while *mei*(沒) to realis ones. But in an irrealis context, their divisions of labor alter. The commonly unacceptable combination of *bu*(不) plus a resultative verb-complement construction, *bu*(不) plus a perfective event, and *bu*(不) plus Chinese *bei*(被)-passive all become possible. Another interesting discovery Xiaoling Wang made concerns the relationship between distance in physical spaces and event quality. Long-distance representation is easier to be grammaticalized than the short-distanced one. And the degree of grammaticalization may map into the degree of irrealis. Xiaoling Wang (2007) stated at the end that due to its complexity and ambiguity, subjunctive mood in Chinese will not be covered in her dissertation.

But when Xiaoling Wang's PhD dissertation was published (Xiaoling Wang, 2009), she specially added a chapter concerning subjunctive mood and irrealis meanings. It is in

this chapter that she expressed some of her views on CF sentences. She divided Chinese conditionals into three types, namely real conditionals, CFCs and possible conditionals. The second and third types can be incorporated into one, because they share similar syntactic structures. She thus made a hypothesis that CFCs and possible conditionals only differ in the degree of possibility. She notices the differences between the most typical hypothetical conjunction in Chinese ruguo(如果) and the most typical CF conjunction yaobushi(要不是) and thinks the latter a result of grammaticalization of "*ruguo*(如果)+negator".

The most recent PhD dissertation on irrealis category was by Xueping Zhang (2008). She studies the hypothetical conditional sentences in modern Chinese by consulting the documents about irrealis modality. Her classification of irreal modal sentences is based on two semantic criteria, namely cognition [determined/undetermined] and time [perfective/imperfective]. Hypothetical conditional sentence is therefore a typical irreal modal sentence. She further classifies the hypothetical conditional sentences as real (factual and possible) and non-real (CF and subjunctive) depending on whether the condition contained can be realized or not. By CF sentences, she refers to such conditional whose condition is contrary to what has happened in reality, such as:

(24) 要是當時他不在場，就壞事了。

Yaoshi   dangshi   ta   bu   zai   chang,   jiu   huaishi   le.

if   at that time   3S   NEG   at   spot   then   worse   PRT

If he had not been there at the time, the situation would have been even worse.

(Xueping Zhang, 2008)

Xueping Zhang's definition of CF sentences is obviously different from ours, which is broader and includes *subjunctive* in her non-real category. A *subjunctive* conditional includes a condition which is purely illusionary, as in (25):

(25) 要是我是孫悟空，一定變出好多東西救助貧困生。

Yaoshi	wo	shi	sunwukong,	yiding	bianchu	haoduo
if	1S	be	Monkey King	definitely	conjure	many

dongxi	jiuzhu	pinkun	sheng.
thing	relieve	poor	student

If I were the Monkey King, I would conjure up a lot of supplies for students in need. (Xueping Zhang, 2008)

Xueping Zhang claimed that possible conditionals are the most typical hypothetical conditionals, while the other three, including CFCs, are untypical. Such a conclusion is drawn because possible conditionals are far more frequently used compared with the other three and it is characterized by all the typical semantic features of irreal sentence category. She put herself in a position different from Xiaoling Wang (2007) and other linguists who accept that CFCs are a more typical type since it is the farthest from factuality.

Xueping Zhang also drew attention to the function of "X *bushi*(不是)/X *meiyou*(沒有)", where X stands for hypothetical words. She noticed that they are mainly used to mark CFCs. But since hypothetical words and negators are not always adjacent to each other, we often do not regard "X *bushi*(不是)/X *meiyou*(沒有)" as a CF marker, but negation instead.

The study of irrealis category in Chinese brings us huge advantages in the exploration into CF sentences compared with traditional methods. It is no exaggeration that the introduction of irrealis category opens a new era into the study of CFCs in Chinese.

First, it provides an effective framework. Chinese CFCs are assumed by some linguists as being lack of grammatical features, or at least they do not have a unified set of features. Therefore, the previous definitions are concerned about the relationship between the reality and the proposition contained in the sentence. Linguists are aware of

the individual features and attempt to give a detailed and accurate description of them. But since they focus themselves on seeking the features while neglecting the inner connection of these features, what they get finally is only a partial, not the complete picture of this unique linguistic phenomenon. At the same time, CF is only considered a special member of the conditional sentence family. Its grammatical status is not specifically defined.

The concept of irrealis category makes the whole study more unified and systematic. As CF is well accepted as a member of the irrealis group, the individual features of CFCs can be studied from a macro perspective. The grammatical features of CF sentences in Chinese, as have been pointed out by linguists, mainly include tense/aspect markers and negation. Since we now know that they are part of the irrealis family, these features are not captured by coincidence. And the grammatical features, which were once perceived as trivial, can now merge into the collective features of the irrealis category.

Second, with the introduction of irrealis category, it is possible to change the research mode from semantic/syntactic studies to a semantic-syntactic study. In the past several decades, the study on Chinese CFCs experienced a shift from a semantic study, where definitions were given based on the meanings that they convey supported by example sentences, to a syntactic study, where various possible syntactic features are investigated. Emphasizing only on semantic aspect of the issue makes the concept *intangible*, that is the CF meaning of a sentence can only be judged by language intuition or according to the context. But focusing solely on syntactic features may not lead to interesting findings either, since as has been proved by Yan Jiang (2000), no markers are specifically dedicated to CF constructions in Chinese.

The irrealis category provides us with a more satisfactory solution. The category itself is a semantic-syntactic type (Xiaoling Wang 2007, Min Li 2006). It serves as an

ideal perspective from which various syntactic features of CFCs are studied. The features cannot only explain themselves, but they all point toward the same semantic end point, i.e. CF reading of a conditional sentence.

But there is a major deficiency of this category which leads to the fact that so far there has not been a detailed study on CFCs from this perspective. The features of irrealis sentences are obtained through their contrasts with the realis sentences, while the features of CF sentences are obtained based on their discrepancies from indicative conditionals. We have to admit that since both indicative conditionals and CFCs are under the category of irrealis, it might bring some difficulties in distinguishing these two kinds. Since indicative conditionals are part of irrealis family, the features of CF sentences become invisible. In other words, you cannot tell these two kinds of conditionals apart unless you grasp the special features of CFCs. Moreover, as we can discern from the study of the above mentioned recent literature, CF in Chinese turns out to be a kind of irrealis that shows properties of realis, which makes the issue even more complicated, a point we will study in more details in Chapter 7.

In addition, the exact positioning of CFCs in the irrealis category has not been agreed upon yet. The above review of Xiaoling Wang's (2007), Min Li's (2006) and Xueping Zhang's (2008) dissertations reveals that whether CFCs are the most typical irrealis sentences remains to be decided.

In view of the great advantages of the irrealis category, we will adopt the concept in the studies below, but taking heed to its unique quality.

3.3.2 Psychological Experimental Approach

Feng & Yi (2006) carried out a similar psychological research as Bloom's, the purpose of which is to re-examine Bloom's hypothesis. They regarded CF linguistic marking as linguistic forms that are highly predictive of a CF interpretation. They were

safe in claiming that the probability of a conditional being interpreted as CF are higher with these markers and the decision making is based on an interaction between the CF markers and other variables, such as semantics and contexts.

They carried out altogether three studies. The first study was conducted among Chinese native speakers. A naive[30] Chinese native speaker was asked to use the potential CF markers as key words to find 200 sentences from CCL[31] corpus and the internet search engines. Two other Chinese native speakers were asked to judge whether a sentence was a CF or not.

The average percentages of sentences judged as CF are listed in the table below (Feng & Yi, 2006):

category	marker	% CF
Temporal reference	*zao*(早) (early)	83%
Aspect marker	*le*(了)(perfect / perfective marker)	21%
Negators	*yaobushi*(要不是)(had it not been the case)	91%
	mei(沒)(did not)	14%
	yaoburan(要不然)(had it not been the case)	43%
Predicates	*jiuhaole*(就好了)(would have been great if only)	55%
	haiyiwei(還以為)(had thought)	91%
	yuanlai yinggai(原來應該)(should have been)	92%
Others	…*dehua*(的話)(in the case)	9%
	zhende(真的)(really)	10%

Table 7

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[30] Naive here means without linguistics background, or without professional language training.
[31] Center for Chinese Linguistics, PKU.

They concluded that there are some lexical or syntactic markers that are closely related to CF interpretations of a sentence.

The second study they carried out was a comparative study between Chinese and English. They constructed unpredictive sentence structures in both Chinese and English. They were so called because the protases and apodoses were not logically related. In the Chinese sentences, some CF markers are inserted in the appropriate places.

Participants were asked to judge whether a statement is true or false based on their understanding of the conditional they read before the statement. All the conditionals were the same except for the CF markers. The following table shows the percentage of judging Chinese sentences as CF[32].
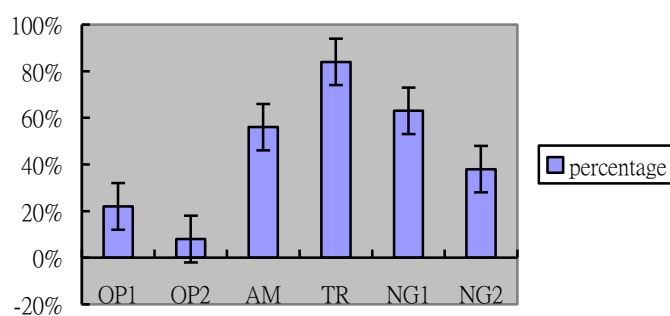
(Feng & Yi, 2006)

Figure 5

The second study shows that the influence of the CF markers over the comprehension of the readers goes beyond contextual effects.

The third study aimed to prove that CF requires more cognitive processing effort. Participants were asked to read sentences on a computer screen in a word-by-word format. The time spent on each word was recorded. The results showed that the time

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[32] OP1 refers to open conditional; OP2 refers to open conditional with marker (*ba*(吧)) at the end; AM referst to counterfactual with aspect marker (*le*(了)); TR refers to counterfactual with temporal reference; NG1 refers to counterfactual with negator 1 (*yaobushi*(要不是)); NG2 refers to counterfactual with negator 2 (*mei*(沒)).

spent at the end of a CF was much longer than that of an open condition.

Based on the above three studies, they concluded that Chinese uses the temporal and aspect markers to signify a CF interpretation. Although there is not such a productive CF structure as the English subjunctive mood in Chinese, its analogy with the English subjunctive mood can still be maintained.

There are some problems with their studies. They pointed out that the participants are "naïve" native speakers, the purpose of which is to eliminate the influence of the linguistic knowledge on their judgment of CF reading. However, they did not realize that without time limit, the participants can take much longer time to ponder the meaning of a sentence, instead of relying on their language intuition.

Second, some CF markers they used can be used in either protasis or apodosis, such as *le*(了) and *zao*(早). Moreover, they have different syntactic and semantic functions. For example, when *le*(了) appears in the protasis, it is always in a postverbal position and is considered as a perfective marker. When it appears in the apodosis, it is usually in a sentence final position and is used to indicate a certain attitude. But when Feng & Yi designed the experiment, they did not distinguish the different positions of the CF markers and therefore the statistics they thus obtained may not be accurate enough.

Three, when they referred to the relationship between CF markers and CF interpretation, they used the word *associate*. Yet *associate* is a word which is too general to explain the gap between 83% CF reading caused by the word *zao*(早) and 10% of that of *zhende* (真的). Does *associate* mean that whenever and wherever the CF marker appear in the sentence and it will arouse CF reading, or CF marker is only one factor, but not the determinate one? More detailed definition should be given on the relationship between CF markers and CF reading.

3.3.3 Linguistic Approach (*Yaoshi*(要是) vs. *Yaobushi*(要不是)—Yuying Su

(2008))

Su's (2008) attempt to sketch the semantic and syntactic features are based on her comparative study of two Chinese conditional constructions: *yaoshi*(要是) and *yaobushi*(要不是). She observed that *yaoshi*(要是)/*yaobushi*(要不是) clauses are adjuncts and that they are attached to a position above TP, higher than the matrix subject. She claimed that although the negator *bu* in *yaobushi*(要不是) fails to license NPIs, PPIs are licensed in *yaobushi*(要不是) clauses. Unlike other conditionals in Chinese, the proposition expressed by the embedded *yaobushi*(要不是) clause is required to be presupposed to be true and that the proposition expressed by the apodosis be false.

To give persuasive explanations to the above mentioned issues, Su borrowed the *only if…* construction from English, which contains both a factive operator and a focus operator *only*. The resemblance between *only if...* construction and *yaobushi*(要不是) construction offers a lot of convenience to debunking the myth of counterfactuality of *yaobushi*(要不是) conditionals. She argues that *yaobushi* clauses are peripheral adverbial clauses, and have a fixed syntactic position due to their illocutionary force, which explains why yaobushi clause rarely follows the matrix clause. The factive operator takes a proposition as its complement, and blocks the licensing of NPIs contained in TP from the higher downward-entailing operator *bu*(不). A covert focus element explains why the proposition expressed by the *yaobushi*(要不是) clause is presupposed to be true, while the proposition expressed by the apodosis clause is understood to be false.

This paper is inspirational. Instead of giving a description of semantic and syntactic representations of *yaobushi*(要不是) conditional, Su was more concerned about the root causes of what a CF *yaobushi*(要不是) appears to be. Her introduction of the two operators borrowed from *only if...* construction, namely factive operator and focus, once

again calls our attention to the seemingly trivial markers in other types of CFCs. Maybe these markers are not as complicated and diverse as what they seem to be. It is probably that they are just representations of a couple of basic features, such as factive or negative.

Yaobushi(要不是) conditionals are indeed a special type of CF sentences, because *yaobushi*(要不是) itself is a very strong CF marker. Its appearance in a conditional inevitably leads to CF interpretation and no ambiguity will arise. That is why the study of *yaobushi*(要不是) conditionals best severs as a starting point for the generation of counterfactuality in other conditional sentences. But most of the hypothetical conjunctions may lead to CF reading of a conditional, and they differ greatly from *yaobushi*(要不是) . The CF markers displayed in these two kinds of CF sentences may differ, and a *yaobushi*(要不是) conditional may not show the typical properties of a CFC. For instance, it is required that the proposition expressed by the embedded *yaobushi*(要不是) clause be presupposed to be true (as shown in (26a)). Yet for other types of CF sentences, they are supposed to contain a false proposition (as shown in (26b))

(26) a. 要不是他昨天準時來上班，恐怕早就被老闆點名批評了。

Yao bushi   ta   zuotian   zhunshi lai   shangban, kongpa zaojiu

if   NEG   3S   yesterday on time come   work   afraid   already

bei   laoban   dianming   piping   le.

BEI   boss   call the roll   criticize   PRT

Had he not come to work on time yesterday, he probably would have been

scolded by the boss.   (He came to work on time yesterday.)

  b. 如果他昨天依然上班遲到，恐怕早就被老闆點名批評了。

Ruguo   ta   zuotian   yiran   shangban chidao, kongpa zaojiu   bei

if   3S   yesterday   still   work   late   afraid   already   BEI

laoban　　　dian　ming　　piping　　　le.

boss　　　　call　the roll　criticize　　PRT

If he had still been late for work yesterday, he probably would have been

scolded by the boss.　　　　　（He was not late for work yesterday.）

After all, *yaobushi*(要不是) is only one of the ways to achieve CF. If it is a dedicated CF marker, why has it not developed into a grammaticalized schema into which all the CF content will fill in? Moreover, CF markers in other languages do not have to contain a negative element. What has *yaobushi*(要不是) got to do with negation of protasis?

Finally, what can follow *yaobushi*(要不是) has to be factual. For propositions which are more abstract, like scientific conjectures, as they are not factual, they cannot be used after *yaobushi*(要不是). But we can certainly build CF propositions for such sentences.

(27)　a. 如果今天香港下雪，那麼天就會涼快多了。

Ruguo　jintian　xianggang　xia xue,　name　tian　　jiu　　hui

if　　　today　Hong Kong　snow　　then　weather　then　will

liangkuai　duo　　le

cool　　　more　PRT

If it snowed today (CF), then it would be much cooler.

　b. 若不是香港今天不下雪，天肯定會涼快好多。

Ruo　bushi　xianggang　jintian　bu　　xia xue,　tian　kending

if　　NEG　Hong Kong　today　NEG　snow　　weather　must

hui　　liangkuai　haoduo.

will　　cool　　　more

If it is were not the case that it did not snow in Hong Kong today (factual), it would be much cooler.

c. 要不是<u>飛機不能飛得像光速那麼快</u>，我們早就去火星了！

Yao   bushi   feiji   bu   neng   fei   de   xiang   guang   su

if   NEG   plane   NEG   can   fly   DE   like   light   speed

name   kuai,   women   zao   jiu   qu   huoxing   le!

so   fast   1PL   already   then   go   Mars   PRT

If it had not been that <u>the plane could not travel faster than the speed of light</u> (factual), we would have already gone to the Mars.

d. 要不是<u>火星不會突然撞上地球</u>，我們能活多少年還真難說。

Yao   bushi   huoxing   bu   hui   turan   zhuang   shang   diqiu,

if   NEG   Mars   NEG   can   suddenly   smash   up   earth

women   neng   huo   duoshao   nian   hai   zhen   nan   shuo.

1PL   can   live   how many   year   still   really   difficult   tell

If it were not the case that <u>the Mars would not suddenly smash into the Earth</u> (factual), it would be difficult to tell how many years we can still live.

e. 要不是火星突然撞上地球，我們能活多少年還真難說。

Yao   bushi   huoxing   turan   zhuang   shang   diqiu,   women

if   NEG   Mars   suddenly   smash   up   earth   1PL

neng   huo   duoshao   nian   hai   zhen   nan   shuo.

can   live   how many   year   still   really   difficult   tell

If it were not the case that the Mars had smashed into the Earth, it would be difficult to tell how many years we can still live.

Why (27e) cannot be uttered? For pure CF clauses, any proposition can combine with CF marker to form a CF construction: no need to take factual or non-factual into consideration. If you can only allow factual clauses, it means it is context-dependent.

CHAPTER FOUR   CF INGREDIENTS (I): TEMPORAL EXPRESSIONS

In this chapter and the chapter that follows, descriptions will be made on the commonly used CF ingredients. Our research will be partially based on the previous researches, since already a large number of studies have been carried out on this aspect. On the other hand, bearing in mind that the purpose of our study is to provide a more systematic vision of the generation of counterfactuality in Chinese, we will seek to install new interpretations to the functioning of these ingredients.

We would like to start with temporal information, which has been widely accepted as having a close bearing to CFCs. In English, backshifted tenses in protasis and apodosis would indicate a lower probability of realization, which means a higher level of counterfactuality. In Chinese, similar findings have been made.

Yan Jiang (2000) believed that fake tense and fake aspect can also be used in Chinese to express CF meanings. Liming Cao and Xiaorui Xiang (2009) regarded temporal reference, such as *zuotian* (昨天) and *dangshi*(當時), as one of the most basic lexical methods to realize counterfactuality in Chinese. Liming Cao published another paper (Liming Cao, 2009) the same year and gave a detailed analysis of the role time indexicals play in the interpretation of Chinese CFCs.

4.1 A Brief Review of the Previous Studies on Temporal Structure in Chinese

Time is a part of the measuring system used to sequence events, to compare the durations of events and the intervals between them, and to quantify the motions of objects.[33] Time is a basic concept in religion, philosophy and science, but it is almost impossible to present a comprehensive definition which is applicable to all the above

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[33] Quoted from Wikipedia: http://en.wikipedia.org/wiki/Time.

mentioned fields.

Temporal expression in Chinese is just as complicated an issue as the definition of time itself. This is mainly due to the fact that Chinese lacks regular morphological tense markers. And the focus of argument is whether or not Chinese has a tense system. It is well accepted that Chinese is abundant in aspect markers. But as to tense, it is a different story. Jespersen (1931) pointed out that it is important to distinguish the two concepts: time and tense. "The former is common to all mankind and independent of language; the latter varies from language to language and is the linguistic expression of time-relations, so far as these are indicated in verb forms." (Jespersen, 1931)

Linguists, such as Mingkai Gao (1948) and Li Wang (1943), do not believe that Chinese has a tense system, because verb forms remain the same when appearing in sentences indicating different time. But for others, such as Jingxi Li (1924), Shuxiang Lü (1942), Ping Chen (1988) and Li & Thompson (1990), they hold the opposite opinion. They are more concerned about the temporal information conveyed through the sentences than the temporal markers.

For the two propositions contained in the CFC, each of them can be anchored independently along the time axis. In English CFCs, present tense is back-shifted to past tense, and past tense is back-shifted to past perfect tense. Since our purpose here is to prove that the temporal locations of the propositions are essential to the interpretation of a conditional sentence, we will attach more importance to the temporal information than to the temporal markers, and therefore we admit that just like in English, we also have past tense, present tense and future temporal meaning in Chinese.

Temporal structure has been studied using all the tools available to modern linguistics. But it is neither possible nor necessary to have a comprehensive review of all the related studies. In the following subsections, we will briefly go over the temporal theories which we believe can be used in the analysis of CFCs.

4.1.1 Tripartite Temporal Structure – Ping Chen (1988)

Comrie, in two of his books, "Aspect" (1976) and "Tense" (1985), established a theoretical framework for time. He defined *tense* as "the grammaticalisation of location in time" (1985), while *aspects* as "different ways of viewing the internal temporal constituency of a situation" (1976). His purpose was not just to give description to a specific language in the world, but rather "to provide an account of tense (and aspect) from the viewpoint of language universals and linguistic typology". These books have had great influence on Chinese linguists. Smith (1983) adopted a speaker-based approach to aspect, as he believed that the sentential aspect presents a situation from a particular point of view, which is the speaker's choice of perspective on the situation. Two components of sentential aspect were recognized, namely situation aspect and viewpoint aspect. The former involves type of situation, such as event or state. The latter involves type of perspective, such as simple or progressive. Vendler (1957) first introduced a four-way distinction between verbs based on their aspectual features. Under Vendler's model, events may be classified into one of four aspectual classes, namely states, activities, accomplishments and achievements. This distinction has a major influence on theories of lexical aspect.

Under the influence of the theories put forward by Comrie (1976, 1985), Smith (1983) and Vendler (1967), Ping Chen (1988) tried to establish a concise theoretical framework which can be used to explain grammatical phenomena related to time. His framework is a tripartite structure, consisting of phase, tense and aspect. Phase is a situation at any given point of time in its duration. Tense refers to the grammaticalised expression of the location of a situation in time. Aspects are different ways of viewing the internal temporal constituency of a situation. Ping Chen's study focused on phase.

Based on three distinctive features, namely [±static], [±durative] and [±telic], he came up with five situation types. Although the phase structure is mainly determined by the lexical meaning of the predicate verb of a sentence, other factors, such as object, complement and even subject, all have influence on its situation type.

Another point raised by Ping Chen (1988) which is also worthy of our attention is that although the temporal system contains three parts, they are by no means independent of one another. On the one hand, the phase structure of a sentence greatly restricts the choice of its tense and aspect. On the other hand, it may also adjust the function of certain tense and aspect markers.

Ping Chen's tripartite system provides an ideal framework in which we can have a systematic analysis of the temporal presentations of CFCs in Chinese. In terms of phase, we can study the lexical meaning of predicate verbs in these conditionals to see if the characteristics of a verb have anything to do with CF interpretation. In terms of aspect, we will see how certain aspect markers, such as *le*(了) and *guo*(過), function in stating a proposition which is against the fact. Under the category of tense, the possible pairings of absolute temporal features will be tested to see which combinations are possible for CFCs.

But if our analysis simply stops here, it will not make much difference from the previous studies. We want to take a step further to bring forth the integration of the above three subcategories, namely phase, aspect and tense, and to find out the relationship between the temporal location and CF reading.

As Ping Chen's tripartite temporal structure only provides us with a general direction to where we will move on, we still need some other tools by which the seemingly implicit temporal expressions can be more clearly and explicitly indicated on the time axis.

4.1.2 Formal Approaches – Yan Jiang & Haihua Pan (2005)

Yan Jiang & Haihua Pan (2005) sought for the explanation of Chinese temporal system from formal semantic perspective. They followed the "tense-aspect-phase" structure and added the temporal parameters to the semantic interpretation of a sentence, as in (1a):

(1) a. $[\![\sim\psi]\!]^{M,g,t} = 1$ iff $[\![\psi]\!]^{M,g,t} = 0$ (t stands for moment of time)

    b. $[\![\psi(\beta)]\!]^{M,g,t} = [\![\psi]\!]^{M,g,t}\big([\![\beta]\!]^{M,g,t}\big)$

(1b) indicates that when interpreting a logical form which contains a predicate (ψ) and an argument (β) as well as a temporal index (t), we also need to follow the Principle of Compositionality.

Yan Jiang & Haihua Pan (2005) borrowed Reichenbach's (1947) S (the moment of speech) —E (the event time) —R (the reference time) system, taking past tense and future tense as two basic tenses in Chinese and defining them as tense operators. Therefore one syntactic rule (2a) and two semantic rules (2b) can be stipulated as follows:

(2) a. If Ψ is a well-formed formula (wff), then $P\Psi$ and $F\Psi$ are both wffs.

    b. A logical form which contains a tense operator can be interpreted by the following principles:

        If there exists a moment of time $t', t' < t, and\ [\![\psi]\!]^{M,g,t'} = 1,$

        then $[\![\underline{P}\psi]\!]^{M,g,t} = 1.$

        If there exists a moment of time $t', t < t', and\ [\![\psi]\!]^{M,g,t'} = 1,$

        then $[\![\underline{F}\psi]\!]^{M,g,t} = 1.$

Based on the above definition, they discussed the co-existence of two tense operators in one sentence, the interaction of tense operator and negative operator and the interaction between tense operator and quantifier.

As for aspect, the Chinese temporal system manifests perfective and progressive aspects, while imperfective aspect falls under the category of progressive aspects. The semantic interpretation of the aspects is also formalized:

(3) Perfective aspect: $\llbracket \text{Perf}(\psi) \rrbracket^{M,g,I} = 1$

$$\leftrightarrow \left[\llbracket \psi \rrbracket^{M,g,I} = 1 \,\&\, \exists i'\left[i' = \text{First}(I) \,\&\, \exists i''[i'' = \text{Final}(I) \to i'' \in I] \right] \right]$$

Progressive aspect: $\llbracket \text{Prog}(\psi) \rrbracket^{M,g,I} = 1 \implies \exists J[\llbracket \text{Perf}(\psi) \rrbracket^{M,g,I} = 1]$

Here, I stands for an interval of time, i' and i'' are subintervals of time which are included in I, First (I) and Final (I) refer to the starting point and ending point of ψ, and J stands for another interval of time in which I is included.

Yan Jiang and Haihua Pan (2005) also believed that the situation type of a sentence is largely determined by the verb the sentence contains. Verbs can be classified into five different categories based on three parameters: duration, telicity and dynamicity[34]:

	State verb	Activity verb	Accomplishment verb	Semelfactive verb	Achievement verb
Durative	-	+	+	-	-
Telic	-	-	+	-	+
Dynamic	-	+	+	+	+

(Yan Jiang & Haihua Pan, 2005)

Table 8

They can be defined in the following ways so that their differences can be easily observed:

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[34] Symbol "-" in table 8 indicates that this verb category does not have this parameter, while symbol "+" indicates it has.

(4) a. If sentence ψ contains an activity verb or a state verb, then

$$\llbracket \psi \rrbracket^I = 1 \Longrightarrow \forall I'\big[I' \subseteq I \ \& \ \llbracket \Psi \rrbracket^{I'} = 1\big]$$

    b. If sentence ψ contains an accomplishment verb, then $\llbracket \psi \rrbracket^I = 1 \Longrightarrow$ I can not be a moment of time, and $\sim\!\exists I'[I' \subseteq I \ \& \ \llbracket \Psi \rrbracket^{I'} = 1]$ and at the same time $\exists I''\big[I \subseteq I'' \ \& \ \llbracket \Psi \rrbracket^{I''} = 1\big]$

    c. If sentence ψ contains an achievement verb or a semelfactive verb, then $\llbracket \psi \rrbracket^t = 1 \Longrightarrow$ t must be a moment of time, or is an interval of time consisting of a moment of time.

4.1.3 Temporal Reference – Yang Gu (2007)

Yang Gu (2007) discussed situation aspect[35], tense and aspect in Chinese by establishing spatiotemporal relations among various elements in the temporal system. Her basic assumption is that situation aspect is an objective existence and always remains the same no matter what perspective the speaker takes. Aspect is the spatial presentation of an event, and tense is its temporal presentation. They interact with each other and determine the spatiotemporal ordering of time-denoting entity, i.e. the relationship between speech time, reference time and event time. On the basis of these assumptions, sentences in natural languages necessarily have a tense projection, with tense being overtly expressed or covertly construed on semantic features. Through examples, she showed how overt markers, such as adverbs of degree and focus adverbs, are used to activate the scalar implicature so as to determine tense, and how sentence final particles as discourse focus can be used to activate the implied category to determine the temporal interpretation of sentences.

We find Yang Gu's theory attractive because CFCs can be interpreted in a similar vein. Such conditionals also have two parameters – temporal and spatial, but the latter

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[35] Situation aspect is referred to as situation type by Ping Chen (1988).

has acquired a different meaning. Instead of referring to the perspective of the speaker, it indicates the spatial anchoring of the event, i.e. whether it is in the actual world which is close to the speaker, or in a possible world which is different from the actual world and which keeps a long distance from the speaker.

4.1.4 Relevance-Account of *le*(了) and *guo*(過) – Ljungqvist (2007)

Le(了) and *guo*(過) have been traditionally regarded as typical aspect markers, such as in (5) and (6):

(5) 他昨天去了五個公司面試。

Ta   zuotian   qu   le   wu-ge   gongsi   mianshi.

3S   yesterday   go   LE   five-CL   company   interview

He went to five companies for interview yesterday.

(6) 他上星期去過深圳。

Ta   shang   xingqi   qu   guo   Shenzhen.

3S   last   week   go   GUO   Shenzhen

He went to Shenzhen last week.

But they also contribute different readings in different contexts, such as in examples (7) and (8).

(7) 這張門票貴了十塊。

Zhe-zhang   menpiao   gui   le   shi   kuai.

this-CL   ticket   expensive   LE   ten   yuan

The ticket price has been raised by ten yuan.

(8) 我蹦過極（，沒攀過岩）。

Wo   beng   guo   ji   (,mei   pan   guo   yan).

1S   jump   GUO   bungee   (NEG   climb   GUO   rock)

I have tried bungee jump(, but not yet rock climbing).

In (7), *le*(了) expresses excessiveness or a surpassing of a certain standard, while (8), compared with (7), obtains a sense of "having experienced".

To provide a unified explanation to these particles which can be interpreted in a variety of ways, Ljungqvist proposed a relevance-theoretic account: a procedure, together with a concept activated by the procedure. A procedural expression is used to direct the addressee toward a correct interpretation of an utterance.

Therefore, the procedural content of *le*(了) was defined by Ljungqvist as:

Activate boundary concept and subconcepts such as temporal boundary, attitudinal boundary or discourse boundary, guided by situation type characteristics, scope, sentence structure and the search for contextual effects.

(Ljunqvist, 2007)

Le(了) in example (5) activates a temporal boundary and the one in (7) activates an attitudinal boundary.

She also defined that the procedural content of *guo*(過), on the other hand, activates a repeatable final boundary for the situation that the verb phrase linguistically represents. This definition covers all the possible interpretations of *guo*(過) as particle. These interpretations include perfective reading (such as in (6)), experience (such as in (8)), and partial effect (such as (9)):

(9) 狗剛才吃過你的蘋果。

Gou   gangcai   chi   guo   ni   de   pingguo.

dog   just now   eat   GUO   2S   DE   apple

The dog just took a bite of your apple. (Ljungqvist[36])

Our preliminary research shows that *le*(了) and *guo*(過) also appear in Chinese CFCs and they make contributions to the temporal interpretation of sentences. The

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[36] The author also discussed the concept meaning of *zhe*(著), another aspect marker. But since it will not be our concern in this dissertation, we will simply leave it out.

introduction of a unified account of each of them will make it possible for us to provide a systematic account of the CF ingredients. We are no longer concerned about the various interpretations of these particles, but would concentrate on the relationship between the core concept of each particle and CF reading.

Another piece of evidence which shows that Ljungqvist's research is meaningful to us is that the generating of counterfactuality can also be explained from relevance-theoretical perspective. Yan Jiang (2000) also made a similar attempt by using *explicatures*, which are derived by pragmatic inference to explain the indeterminate relationship between CF markers and CF reading.

4.2 An Analysis Based on Tripartite Temporal System

We argue that putting some temporal distance between the speaker and the past event is a way to generate counterfactuality. Temporal distance is associated with counterfactuality or a possible world, which is different from the world we live in. Our assumption is that counterfactuality is realized through temporal anchoring of events in a past time.

The following discussion will be unfolded from phase, to aspect and to tense in sequence.

4.2.1 Phase

Phase refers to the innate feature of a situation[37] along the temporal axis (Ping Chen, 1988). Basically the predicate verb of a sentence determines its phase structure. Based on Vendler's (1967) well-accepted three distinctive features—[-/+static]，[-/+durative] and [-/+telic], various sentences can be divided into different situation types (otherwise known as Aktionsart). Dynamic situations (-static) 'require a continual input of energy'

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[37] Situation is used here to refer to situation, event or state.

(Vendler, 1967). The term durative 'refers to the fact that the given situation lasts for a certain period of time' (Vendler, 1967). Telic events have a change of state which constitutes the outcome, or a goal of the event. The event can be regarded as complete only when the goal is reached. We will follow Ping Chen (1988) and Yan Jiang & Haihua Pan (2005) and divide sentences into five different situation types[38]:

	STATIC	DURATIVE	TELIC
State	+		
Activity	−	+	−
Accomplishment	−	+	+
Complex change	−	−	+
Simple change	−	−	−

(Ping Chen, 1988)

Table 9

Phase is mainly determined by the innate property of the predicate verb of a sentence. Yet in Chinese, there are sentences which do not contain a verb:

(10) 明天冬至。

Mingtian   dongzhi.

tomorrow   winter solstice

It will be the Winter Solstice tomorrow.

(11) 小王嘉興人。

Xiaowang   jiaxing   ren.

Xiaowang   Jiaxing   people

Xiao Wang is from Jiaxing.

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[38] Jiang and Pan's division is the same as Ping Chen's except that they use a different name —"achievement verb"— for the fourth type – "simple change".

(12) 中國人民勤勞質樸。

Zhongguo　renmin　qinglao　zhipu.

Chinese　　people　diligent　honest

Chinese people are diligent and honest.

(13) 香山上的葉子紅了。

Xiangshan　　　shang　de　yezi　hong　le.

Fragrant Hills　on　　DE　leaf　red　　PRT

The leaves at the Fragrant Hills have turned red.

Sentences such as (10)-(13) will not be our concern in this section, although adjectives, nouns, numerals and measure words can all be predicates in Chinese. If all the cases are considered here, the discussion will be too involved and digressive.

Another point to be clarified concerning phase is that although the three different layers in the temporal structure, namely phase, apect and tense, are apparent, none of them stand alone. A grammatical and complete sentence usually has all the three of them. But for the convenience of our discussion, the other two factors, namely tense and aspect, will be avoided as much as we can. That is, aspect markers, such as *zhe*(著), *le*(了) and *guo*(過), will not be included in the discussion of this section, as they are different from other lexical components of a sentence in that they make strong contributions to the temporal anchoring and the temporal interpretation of a sentence soly dependent on the verbs may be different if these aspect markers are added.

It is safe to start our exploration with the three distinctive features proposed by Vendler, because the various further divisions of situation types (Qingshu Ma 1981, Shou-Hsin Teng 1985, Ping Chen 1988, Qianyan Gong 1995, Yan Jiang & Haihua Pan 2005) all hinge on them. Yet, they are not of equal status. Sentences possessing the property of [+static] form a separate group, while those without such a property can be further divided into other groups (Ping Chen 1988, Yaojing Dai 1997).

```
                    ┌─ Property & relationship: …
         Static──┤
                    └─ Inner Sense: …
         --Posture: …
         -- Position: …        ┌─ Momentary:…
                     ┌─Action──┤
                     │          └─ Durational:…
Dynamic ──┤                        ┌─ Momentary：…
                     └─Completion ──┤
                                       └─ Durational:…
```
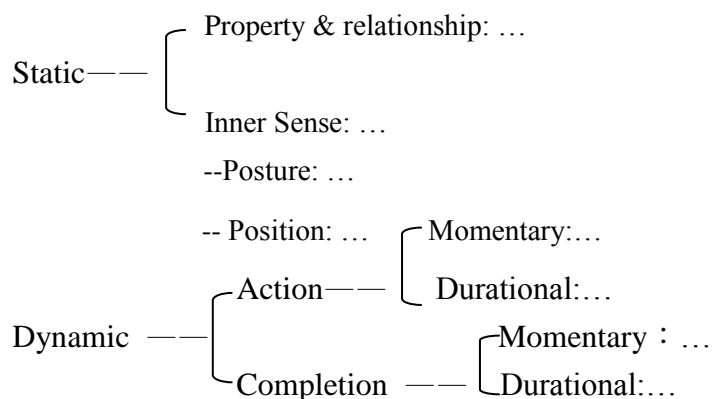
Table 10

States are assigned a uniform internal part structure; in particular, states hold evenly over periods of time (Herweg, 1991). They are homogeneous, in contrast to dynamic events or actions, which are heterogeneous, as can be shown from the following examples:

(14)　他姓方。

Ta　　　xing　　　fang.

3S　　　surname　Fang

His surname is Fang.

(15)　張三具有領導人的素質。

Zhangsan　juyou　lingdaoren　de　　suzhi.

ZhangSan　have　leader　　　DE　　quality

Zhang San possesses the qualities of leadership.

(16)　大家都信任英拉。

Dajia　　　dou　　xinren　Yingla.

everybody　all　　trust　Yingluck

Everybody trusts Yingluck.

The situation described in the above propositions can be illustrated by Figure 6:
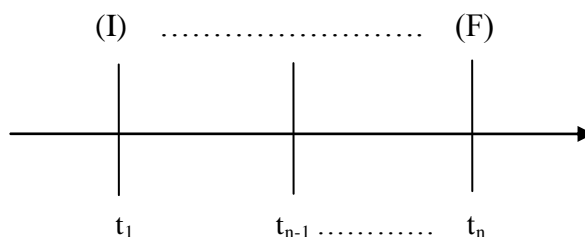
Figure 6

I stands for the initial point of the situation, *F*, the finishing point and *t*, the corresponding situation at a certain temporal point. The pairs of brackets indicate that the element within it is missing. According to our assumption, such kind of propositions is difficult to generate dedicated CF readings if they appear in a conditional. Their lack of both initial and finishing points makes it difficult to anchor along the temporal axis. Therefore, if they appear in the protasis of a conditional, they tend to yield a neutral reading, making both CF reading and open reading possible with the former being triggered through some other means:

(17)　a. 如果張三具有領導人的素質，他很快就會被提拔。

Ruguo　zhangsan　jüyou　lingdaoren　de　suzhi,　ta　henkuai

if　　　ZhangSan　have　leader　　　DE　quality　3S　soon

jiu　　Hui　bei　　tiba.

then　will　BEI　promote

If Zhang San possesses the qualities of leadership, he will soon get promoted.

　　b. 如果張三具有領導人的素質，他早就被提拔了。

Ruguo　zhangsan　jüyou　lingdaoren　de　suzhi,　ta　zao

if　　　ZhangSan　have　leader　　　DE　quality　3S　already

jiu　　bei　tiba　　le.

then　BEI　promote　PRT

If Zhang San possessed the qualities of leadership, he would already have

got promoted.

(18) a. 如果大家都信任英拉，那麼就會投她一票。

Ruguo	dajia		dou	xinren	Yingla,	name	jiu	hui	tou
if	everybody	all	trust	Yingluck	then	then	will	cast

ta	yi	piao.
3S	one	vote

If everybody trusts Yingluck, then they will vote for her.

b. 如果大家都信任英拉，她就不會遭到彈劾。

Ruguo	dajia		dou	xinren	Yingla,	ta	jiu	bu
if	everybody	all	trust	Yingluck	3S	then	NEG

hui	zaodao	tanhe.
will	encounter	impeachment

If everybody trusted her, she would not have been impeached.

There are several ways in which CF reading could be obtained in a conditional which contains a static protasis. First, if the proposition is contrary to both the speaker's and the hearer's knowledge of the situation in question (otherwise known as *context*), CF reading is guaranteed. So, if both the speaker and the hearer know that in (17b) Zhang San lacks leadership ability, and in (18b) nobody trusted Yingluck, the conditional would make sense.

Here, we have to admit that context indeed plays an important role in determining what kind of reading a conditional could have. Yan Jiang (2000) claimed that the comprehending of a CF sentence is mainly a pragmatic process. The hearer enriches the indeterminate logical form according to the context information, and comes up with the truth condition of a sentence, and further works out the implicature to determine whether the conditional is a CF or an open one. This is a general process of course. If every Chinese CFC is processed in this way, it will manifestly support Bloom's opinion that

there is no CF marker in Chinese. Therefore, despite its essential role, we will still focus on those tangible CF components.

The second way to indicate CF reading is to add some adverbs, such as *zao*(早) and *zhende*(真的), or the particle *le*(了). In this section we will only discuss the use of *zao*(早), while leaving *zhende*(真的) to the part concerning negation and leaving *le*(了) to the next section on aspect.

Zao(早) has been widely accepted as a Chinese CF component. Compare the following pair of sentences.

(19) a. 如果大家都信任英拉，那麼就會投她一票。

Ruguo   dajia   dou   xinren   YingLa,   name   jiu   hui   tou

if   everybody all   trust   Yingluck then   then will cast

ta   yi   piao.

3S   one   vote

If everybody trusts Yingluck, then they will vote for her.

  b. 如果大家早信任英拉，那麼就會投她一票了。

Ruguo   dajia   *zao*   xinren   YingLa,   name   jiu   hui

If   everybody already   trust   Yingluck then   then will

tou   ta   yi   piao   le.

cast   3S   one   vote   PRT

If everybody had already trusted Yingluck, they would have voted for her.

When *zao*(早) is inserted before the predicate verb in the protasis and *le*(了) is attached to the apodosis, (19b) has a much stronger and more definite CF reading than (19a).

Zao(早) has been mentioned in quite a lot of previous literature. Yan Jiang (2000) claimed that it is not used as a temporal deixis indicating a certain past time, but a fake temporal marker of backshifting. We basically agree with him, but will illustrate this

point in a more detailed way. Since state situations lack innate starting and finishing points, the addition of *zao*(早) and *le*(了) into such sentences provides an initial point for them. Once a situation is anchored, CF interpretation arises.

Figure 6 can therefore be transformed into the following:
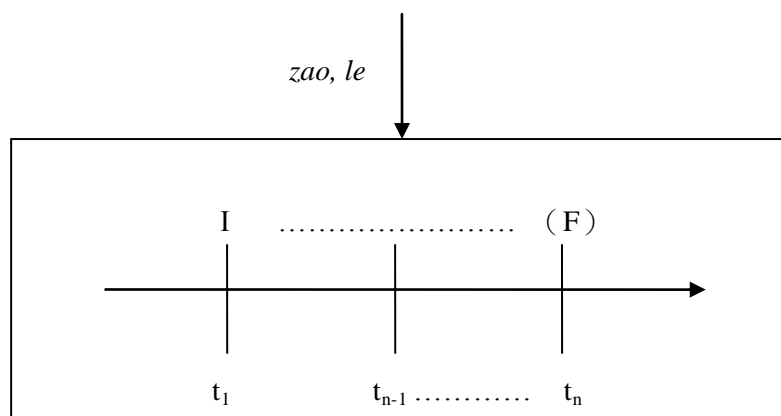
Figure 7

The above diagram shows that when *zao*(早) is inserted before the predicate verb of a static protasis, or when *le*(了) appears after a static verb, the verb is thus bestowed an initial point (*I* in a pair of brackets turning into bare *I*). But for static verbs, we do not think it possible for the existence of (I)......F with the occurrence of *le* after a static verb.

Since *zao*(早) can appear in a variety of collocations and in different positions in a conditional, next we will expound on its contribution to counterfactuality through different forms.

Zao(早) as a temporal adverb can occur in the post-verbal position when in the protasis, such as in (20) and (21).

(20) 這種癌前病變如果發現得早，治癒率可達百分之百。

Zhe   zhong   aiqian   bingbian   ruguo   faxian   de   *zao*,

this   kind   precancerous   lesion   if   discover   DE   early

zhiyu   lü   ke   da   baifenzhi   bai.

cure   rate   can   reach   percent   hundred

If this kind of precancerous lesion is discovered early enough, the cure rate can

reach one hundred percent.

(21) 如果決定得早，明年上半年就可動工、進入實質性的全面開發建設。

Ruguo   jueding   de   *zao*,   mingnian   shangbannian   jiu   ke

if   decide   DE   early   next year   first half   then   can

donggong、   jinru   shizhixing   de   quanmian   kaifa

break ground   enter   substantial   DE   comprehensive   development

jianshe.

construction

If decision is made early enough, the construction project will start at the first

half of next year and enter into the stage of substantial comprehensive

development.

(CCL Corpus)

Some comments can be made about the above examples. *Zao*(早) is always

associated with the V+*de*(得) construction in Chinese. The verb that it follows is

invariably a simple change verb. Such verbs are dynamic and instantaneous, such as

faxian(發現), *jueding*(決定) and *dao*(到). In this construction, *zao*(早) is no longer a

fake temporal marker, but simply means earlyhood which is in contrast with *wan*(晚). It

can thus be replaced by *wan*(晚) to convey lateness and the sentence is still

grammatically correct. No CF reading can be derived from this kind of conditionals,

because the *zao*(早) here is a relative temporal concept and it cannot anchor event or

situation on the time axis.

Zao(早) can also be followed by a time period.

(22) 如果馬斯垂克協議早四、五年通過，今天我們的處境絕非如此。

Ruguo	masichuike	xieyi	zao	si、	wu	nian	tongguo,	jintian
if	Maastricht	Treaty	early	four	five	years	pass	today

women	de	chujing	jue		fei	ru	ci.
1PL	DE	situation	definitely	NEG	like	this

If Maastricht Treaty had been passed four or five years earlier, our situation today would have been totally different.

(23) 如果政府<u>早一、兩個月</u>就通報疫情，情況就不會那麼嚴重了。

Ruguo	zhengfu	zao	yi、	liang ge	yue	jiu	tongbao
if	government	early	one	two-CL	months	then	announce

yiqing,	qingkuang	jiu	bu	hui	name	yanzhong	le.
epidemic	situation	then	NEG	will	so	serious	PRT

If the government had announced the epidemic situation one or two months earlier, it would not be that serious now.

(CCL Corpus)

Just like example (19b), *zao*(早) places the propositions contained in the above protasiss in a time prior to when it really happened; but unlike it, with a specific time period, these propositions are placed at a specific time point. It could be four or five years before the signing of the Maastricht Treaty as in (22), or one or two months before the government made an announcement of the epidemic situation as in (23). Since it also provides an initiating point for the action, this structure always leads to CF interpretation. But even this specific time indicator does not really point to specific time. Note the alternative meaning of *si wu nian*(四五年) and *yi liang ge yue*(一兩個月). This is typical of CF: what is superficially specific is still fake.

Zaojiu(早就) seldom appears in the protasis, but when it appears in the apodosis, it is always accompanied by the sentence-final particle *le*(了). We used the combination of *ruguo*(如果) and *zaojiu*(早就) as keywords and searched through the GigaWord2all

subcorpus. Altogether 64 hits were obtained, among which 15 do not meet our syntactic requirement. In the remaining 49 sentences, 45 have CF reading (listed in Appendix I). The following are some of the sentences.

(24) 就以國會改革為例，如果能啟動，<u>早就</u>啟動了。

Jiu	yi	guohui	gaige	wei li,	ruguo	neng	qidong,	zao
then	take	congress	reform	as example	if	can	initiate	already

jiu	qidong	le.
then	initiate	PRT

Take congressional reform as example. If it could have been initiated, we have already done so.

(25) 黃石城表示，如果可以辭職早就辭了…

Huang shicheng biaoshi, ruguo keyi cizhi zao jiu ci le…
Huang shicheng indicate if can resign already then resign PRT
Huang Shicheng indicates that he would have already resigned if he would have been allowed to.

(CCL Corpus)

Zaojiu(早就) is interchangeable with *zao*(早), but with an additional *jiu*(就), it demonstrates a tone of confirmation and affirmation.

It is obvious that *zaojiu*(早就) makes substantive contribution to CF meaning. Unlike *yijing*(已經), which also expresses the meaning of *already*, *zaojiu*(早就) is highly subjective. It conveys a strong personal feeling toward the apodosis proposition—the proposition should have already been fulfilled if the proposition in the conditional clause were realized. *Zao*(早) here is not a definite temporal deictic since it can refer to as far as several hundred years ago, or as close as a moment ago. Like the CF-generating *zao*(早) in the protasis, instead of referring to a specific past time, it functions as a backshift operator.

Zaojiu(早就) can also be split up and appear in the protasis and the apodosis at the same time, as in examples (26) and (27)

(26) 他要是<u>早</u>知道了<u>就</u>不會再來問你們了。

Ta	yaoshi	zao	zhidao	le	jiu	bu	hui	zai	lai
3S	if	already	know	LE	then	NEG	will	again	come

wen	nimen	le.
ask	2PL	PRT

If he had already known, then he would not have come to ask you.

(27) 尤祖蔭先生如果<u>早</u>聽到你這番話<u>就</u>好了。

You Zuyin	xiansheng	ruguo	zao	tingdao	ni	zhe-fan	hua
You Zuyin	mister	if	already	hear	2S	this-CL	word

jiu	hao	le.
then	good	PRT

It would have been better if Mr. Zuying You had heard your words earlier.

(CCL Corpus)

Here, *jiu*(就) acts as a conjunction and works in pair with *ruguo(如果)* or *yaoshi*(要是).

In the construction of a CFC, *zao*(早) manifests a special property which is not possessed by other temporal adverbs, such as *xian*(先), *qian*(前), *wan*(晚) and *hou*(後). It might be the only CF component among so many temporal adverbs.

It is almost approaching the end of our discussion concerning phase, but only one kind of situation type, that of state, has been studied. How about the other four kinds? The preceding analysis tells us that propositions containing a state alone would be almost impossible to become the protasis of a CFC, because they do not have an innate initial point. The use of *zao*(早) not only provides them with such a point, but anchors the situation to a prior interval of time or moment of time, CF reading thus arises.

The remaining four types (according to Yan Jiang and Haihua Pan's classification) all have initial points (Yan Jiang and Haihua Pan, 2005):

Activity	I	————	(F)
Accomplishment	I	----------	F
Achievement	I		
	F		
Semelfactive	I		
	(F)		

Figure 8

Naturally the conditionals whose protases contain them are easier to generate CF readings. But situation type alone only offers some convenience in discussion. For conditionals to be CFCs, we need to add other ingredients. And for non-static situations, these ingredients include some aspect markers and tense markers, which will be dealt with in the next two sections.

4.2.2 Aspect

Aspects are different ways of viewing the internal temporal constituency of a situation (Comrie, 1976). In Chinese, there are perfective and imperfective aspects[39]. Borrowing Reichenbach's SER system, imperfective aspect concerns an inclusive relationship between Event Time and Reference Time (R incl in E). Perfective aspect also describes an inclusive relation between Event Time and Reference Time, but it is "E included in R". The following two sentences show these two aspects and the different relationships of E and R involved (Ljungqvist, 2007).

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[39] Some other linguists, such as Jiang and Pan, prefer to refer to them as perfective aspect and progressive aspect, while imperfective aspect falls under the category of the latter. Here, we adopt the perfective-imperfective dichotomy since it's more widely accepted.

(28) Mary was running (when John arrived).   (imperfective aspect: R incl in E)

(29) Mary ran five kilometers yesterday.   (perfective aspect: E incl in R)

In terms of perspective of observation, when a narrator observes from the external and presents a situation as a whole, that is perfective aspect. On the contrary, when a narrator observes from the internal and only takes a part out of the whole situation without the beginning or the finishing point, it is imperfective aspect.

In the previous part concerning *phase*, we studied bare sentences. These sentences are without external temporal information, and their internal temporal information is totally conveyed though their situation type. For such kind of sentences, implicit present tense (as in (30)) always takes imperfective aspect as its complement, while implicit past tense (as in (31)) always takes perfective aspect as its complement. In addition, the default aspect of a telic situation is perfective, and the default aspect of an atelic situation is imperfective.

(30) 張麻子很固執。

　　　Zhang mazi　　hen　　　guzhi.

　　　Zhang Mazi　　very　　　stubborn

　　　Zhang Mazi is very struborn

(31) 六子含冤剖腹自殺。

　　　Liuzi　　hanyuan　　poufuzisha.

　　　Liuzi　　wronged　　hara-kiri

　　　Being wronged, Liuzi committed haara-kiri.

Since *guzhi*(固執) is a state, and therefore naturally atelic, example (30) describes an imperfective situation. Sentence (31) is perfective, because *poufu zisha*(剖腹自殺) is telic.

We can use diagrams to demonstrate the relationship between situation type and aspect. In these diagrams, instead of using E to refer to event time, we will introduce the

I…F pair to indicate the situation type.

Perfective (accomplishment)

I   F

R

Figure 9

Perfective (achievement)

I
F

R

Figure 10

Imperfective (state)

(I)   (F)

R

Figure 11

Imperfective (activity)

I   F

R

Figure 12

Imperfective (accomplishment)

I   F

R

Figure 13
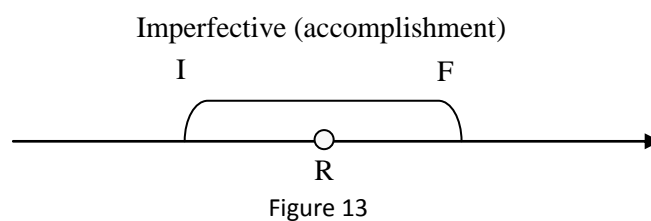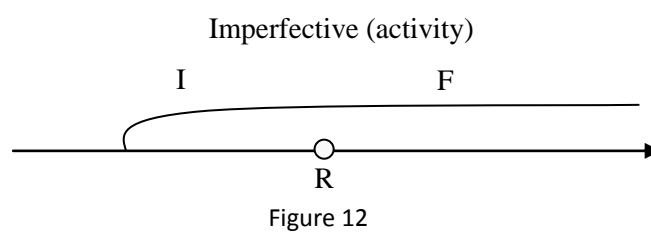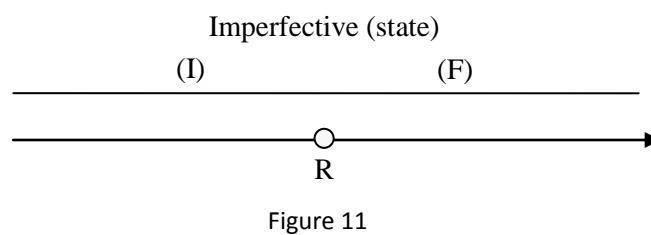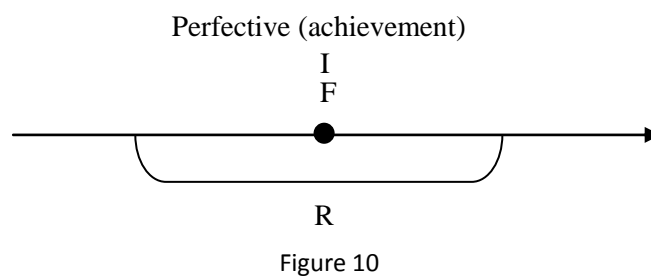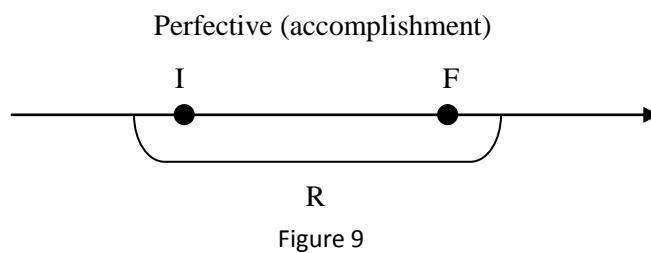
The disc ● refers to a moment of time, and the circle ○ refers to either an interval of time or a moment of time.

Perfective aspect requires that the situation should have a finishing point. Otherwise it would be impossible to be included in R. Imperfective aspect requires that the situation should have a duration, or else, it would not be possible to include the reference time in it. That is why we come up with Figure 9 to Figure 13.

Unlike in English where verbs can be inflected to encode aspect:

(32)   Mary is reading.

   Progressive aspect (be+-ing)

(33)   John has visited the museum.

   Perfective aspect (have+past participle)

In Chinese, aspect can be marked by adding aspect markers, such as *le*(了), *zhe*(著) and *guo*(過). Such particles are used to place situations in time in relation to the reference time of the utterance.

Imperfective aspect in Chinese can be expressed by particles, such as *zhe*(著) and *zai*(在). Sentences containing state verbs also fall under this category.

(34)   他穿著大衣。

   Ta   chuan   zhe   dayi.

   3S   wear   zhe   overcoat

   He is wearing an overcoat.

(35)   他在穿大衣。

   Ta   zai   chuan   dayi.

   3S   zai   wear   overcoat

   He is putting on an overcoat.

(36)   張三很聰明。

   Zhangsan   hen   congming.

   Zhangsan   very   smart

   Zhang San is smart.

(37) 他很生氣。

Ta　　hen　　shengqi.

3S　　very　　angry

He is angry.

For imperfective aspect, situation is observed from within. Neither the starting point nor the finishing point is clearly indicated. Therefore, when such kind of structure appears in the protasis of a conditional, both CF and indicative readings are possible. It depends on the apodosis to decide which one. We borrow Yan Jiang's (2000) examples and repeat here:

(38)　a. 要是有電，燈就亮了。

Yaoshi　you　　dian,　　　deng　jiu　　liang　le.

if　　　have　electricity　light　then　brigh　PRT

If there were light, the lights would be on. (CF reading)

　　b. 要是有電，燈就會亮。

Yaoshi　you　　dian,　　　deng　jiu　　hui　　liang.

if　　　have　electricity　light　then　will　bright

If there is electricity, the lights will be on. (open reading)

(39)　a. 我要是想當老師，就報考師範學院了。

Wo　　yaoshi　xiang　dang　　laoshi,　jiu　　baokao　shifan

1S　　if　　　want　become　teacher　then　apply　normal

xueyuan　le.

institute　PRT

If I had wanted to become a teacher, I would have applied to a normal institute. (CF reading)

　　b. 我要是想當老師，就報考師範學院。

Wo	yaoshi	xiang	dang	laoshi,	jiu	baokao	shifan
1S	if	want	become	teacher	then	apply	normal

xueyuan.

institute

If I want to become a teacher, I will apply for a normal institute. (open reading)

<div align="right">(Yan Jiang, 2000)</div>

Perfective aspect is associated with both past tense and future tense. In Chinese, if future tense is to be expressed, it usually requires the use of such auxiliary verbs as *jiang*(將) and *hui*(會), or temporal adverbs such as *mingtian*(明天) or *xiazhou*(下周). Without these markers, a perfective sentence is usually interpreted as of past tense.

Since future tense indicates an event which has not happened yet when the sentence is uttered, or only expresses an assumption, it is in conflict with the requirement of a CF protasis. Imperfective aspect indicating future events does not have CF reading:

(40) 如果你下次比賽打破紀錄，我就親手給你頒金牌。（open reading）

Ruguo	ni	xia	ci	bisai	dapo	jilu,	wo	jiu
if	2S	next	time	competition	break	record	1S	then

qinshou	gei	ni	ban	jinpai.
personally	for	2S	present	gold medal

If you break the record next time in the competition, I will personally present the gold medal to you.

(41) 如果等一會兒油罐爆炸，威力將會很大。（open reading）

Ruguo	deng	yihuier	you	guan	baozha	weili	hui	hen	da.
if	wait	a while	oil	tank	explode	power	will	very	big

If the oil tank explods a while later, it will be very powerful.

<div align="right">(CCL Corpus)</div>

But there is an exception. If the speaker uses future tense to state a hypothesis which he believes or is widely accepted as impossible, logically or practically, such conditionals are CF:

(42) 如果明天太陽從西邊出來了，他就會變成善人。

Ruguo   mingtian   taiyang   cong   xibian   chulai   le,   ta   jiu   hui

if   tomorrow   sun   from   west   come   LE   3S   then   will

biancheng   shan   ren.

become   benevolent   person

If the sun rises from the west tomorrow, he would become a benevolent person.

(43) 假如哪天二加二等於五了，那時你下棋就能贏我了。

Jiaru   na   tian   er   jia   er   dengyu   wu   le,   na

if   which   day   two   plus   two   equal   five   LE   that

shi   ni   xia   qi   jiu   neng   ying   wo   le.

time   2S   play chess   then   can   beat   1S   PRT

If two plus two equals five one day, you could beat me in chess games then.

The hypotheses of (42) and (43) are based on common knowledge, which includes the present moment and is extended to the future. Strictly speaking, they are not describing future situations and events. Such kind of counterfactuality is realized by introducing a logical paradox without being influenced by temporal elements.

Le(了) and *Guo*(過) are typical perfective markers. Most linguists believe that there are two distinct yet homophonous *le*(了) in Chinese. The one immediately following a verb is called verbal *le*(了), or *le*(了)$_1$. The one which occurs at the end of a sentence is called sentential *le*(了), or *le*(了)$_2$. *Le*(了)$_1$ works in a similar way as the temporal adverb *zao*(早). When it follows a state verb, it indicates the starting point of the event; when it follows a dynamic verb, it indicates the finishing point of the event. For example:

(44) 昨天他知道<u>了</u>這件事，氣不打一處來。

Zuotian   ta   zhidao   le   zhe-jian   shi,   qi   bu

yesterday 3S   know   LE   this-CL   matter anger NEG

da   yi-chu   lai.

from One-CL   come

  When he learnt about it yesterday, he was filled with anger.

(45) 我吃<u>了</u>飯就去找你。

Wo   chi   le   fan   jiu   qu   zhao   ni.

1S   eat   LE   lunch then   go   find   2S

  I will go to meet you after having lunch.

In (44), *zhidao*(知道) is a state verb. *Le*(了)$_1$ provides an initial boundary to *zhidao*(知道), meaning, "starting to be in the state of knowing…" In (45), *chi*(吃) is a dynamic verb, and *le*(了)$_1$ provides a final boundary to the action, meaning after the action of having meal finishes. Therefore, it is not reasonable to take *le*(了)$_1$ only as a perfective marker[40].

Both *le*(了)$_1$ in the protasis and *le*(了)$_2$ in the apodosis contribute to CF reading of a sentence. Although many people consider the former an aspect marker and the latter an attitude marker, they play the same role— to provide boundary for the event.

It was Li and Thompson (1981) who first raised the dichotomy of boundedness and unboundedness in Chinese grammar. They introduced the concept of *bounded* to unify the various syntactic performances of the particle *le*(了). Jiaxuan Shen (1995) pointed out that the grammatical function of *le*(了) is to change unbounded concepts into bounded ones.

The concept of *boundary* here is used in a much narrower sense compared with *bounded*, yet when they are applied to the explanation in CF sentences, they mean the

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[40] For details, see Ljungqvist (2007) and Jo-wang Lin (2003).

same.

According to Ljungqvist (2007), *le*(了)*₁* can be associated with temporal boundary which is regarded as an interface between the mental representations of situations described by the verb phrase and the temporal reading of an utterance. In other words, it is the relationship between Event Time and Reference Time. In a CF context, by providing temporal boundary, the aspect marker *le*(了)*₁* successfully anchors the event in a prior time. If the tense is past tense, then CF reading is guaranteed.

Sentence-final *le*(了)*₂* also provides a boundary, but an attitudinal boundary (Ljungqvist, 2007). *Le*(了)*₂* in this occasion expresses excessiveness (a boundary between what is considered normal and what is considered beyond the normal range) or correction of wrong assumption. In a CF sentence, *le*(了)*₂* provides a boundary between the consequence in the real world (reality or possible truth) and the consequence in the possible world when the CFC is met. It triggers some contextual effects. We repeat Yan Jiang's (2000) examples here:

(46) a. 要是有電，燈就亮了。

Yaoshi   you   dian,   deng   jiu   liang   le.

if   have   electricity   light   jiu   bright   PRT

If there were light, the lights would be on. (CF reading)

b. 要是有電，燈就會亮。

Yaoshi   you   dian,   deng   jiu   hui   liang.

if   have   electricity   light   then   will   bright

If there is electricity, the lights will be on. (open reading)

(47) a. 我要是想當老師，就報考師範學院了。

Wo   yaoshi   xiang   dang   laoshi,   jiu   baokao   shifan

1S   if   want   become   teacher   then   apply   normal

xueyuan   le.

institute   PRT

If I had wanted to become a teacher, I would have applied to a normal

institute. (CF reading)

b. 我要是想當老師，就報考師範學院。

Wo   yaoshi   xiang   dang   laoshi,   jiu   baokao   shifan

1S   if   want   become   teacher   then   apply   normal

xueyuan.

institute

If I want to become a teacher, I will apply for a normal institute.

(open reading)

(Yan Jiang, 2000)

In (46a), *le*(了)*₁* triggers the propositional attitude related to boundary, which is the boundary between the fact that the lights are not on and the contrary-to-fact assumption that if there is electricity, the lights will be on. Without *le*(了) in the apodosis of (46b), no boundary is set up and no counterfactuality is generated.

The particle *guo*(過) can also be found in CF sentences, but not as frequently as *le*(了). We searched in GigaWord2all subcorpus with *yaobushi*(要不是)+*le*(了) and *yaobushi*(要不是)+*guo*(過) as keywords respectively. The following are the results we obtained:

Keywords	Total hits	Valid Hits	CF Sentences
Yaobushi(要不是)+*le*(了)	53	41	41
Yaobushi(要不是)+*guo*(過)	3	1	1

Table 11

Unlike *le*(了), which can trigger both temporal boundary and attitudinal boundary, *guo*(過) can only trigger temporal boundary. *Guo*(過) activates a temporal boundary that serves to delimit the Event Time. This boundary is linked to the Reference Time of the sentence by triggering further instructions similar to the ones described for *le*(了), such as in the following sentences:

(48) 多邊程式方面，我入會工作小組已召開過九次會議及二次非正式會議，完成我貿易體制之審查工作。

Duobian	chengshi	fangmian,	wo	ruhui	gongzuo	xiaozu
multilateral	program	aspect	1S	accession	working	group

yi	zhaokai	guo	jiu-ci	huiyi	ji	er-ci	feizhengshi
already	hold	GUO	nine-CL	meeting	and	two-CL	unofficial

huiyi,	wancheng	wo	maoyi	tizhi	zhi	shencha	gongzuo.
meeting	finish	1S	trade	system	zhi	examination	work

As to multilateral program, our accession working group has already held nine meetings and two unofficial meetings, having completed the examination on our own trade system.

(49) 聯准會另一位理事凱利已發表過他的研究，認為Ｙ２Ｋ的問題將使美國經濟活動受到幹擾。

Lianzhunhui	ling	yi-wei	lishi	kaili	yi
the Federal Reserve System	another	one-CL	governor	Cary	already

fabiao	guo	ta	de	yanjiu,	renwei	Y2K	de	wenti
publish	GUO	3S	DE	research	believe	Y2K	De	problem

jiang	shi	meiguo	jingji	huodong	shoudao	ganrao.
will	make	US	economy	activity	receive	disturbance

Another governor of the Federal Reserve System, Cary, has already published his research, believing that the Y2K problem will bring disturbance to the US

economy.

But what makes *guo*(過) different from *le*(了) is that it can further activate the experiential feature. In fact, it has been proposed that just like *le*(了), two distinct yet homophonous *guo*(過) exist in Chinese. One can be called perfective marker (*guo*(過)$_1$) (Pan and Lee, 2004) as those in (48) and (49), while the other experiential aspect marker (*guo*(過)$_2$) (Li & Thompson, 1981). The experiential aspect marker *guo*(過)$_2$ is often used to express that a certain situation has occurred at least once in the past. Or, in Dahl's (1985) words, "an event of a certain type took place at least once during a certain period up to a certain point in time."

(50) 香港的資訊中心發言人說，他從未聽過相關人士有意成立任何新政黨。

Xianggang	de	zixun	zhongxin	fayanren	shuo,	ta
Hong Kong	DE	information	center	spokesman	say	3S

congwei	ting	guo	xiangguan	renshi	you	yi
never	hear	GUO	relevant	people	have	intention

chengli	renhe	xin	zhengdang.
establish	any	new	political party

The spokesman of the Hong Kong-based Information Center said that he had never heard of any relevant people having the intension of establishing a new political party.

(51) 我們深信這些暴徒曾接受過他的訓練。

Women	shenxin	zhexie	baotu	ceng	jieshou	guo	ta
1PL	firmly believe	these	mob	once	receive	guo	3S

de	xunlian.
DE	training

We firmly believe that these mobs have received his training.

Guo(過)$_1$ and *guo*(過)$_2$ are different in that *guo*(過)$_1$ can be used for both immediate past tense and for future tense. But for *guo*(過)$_2$, it is only applied to distant past tense.

We make a research through the CCL corpus under the category of literature with *yaoshi*(要是)+*guo*(過) as keywords, with *guo*(過) less than ten-character distance right to *yaoshi*(要是). The result is 79 hits in total, among which 7 are valid and have CF reading. Two of them are listed below.[41]

(52) 你要是遇見<u>過</u>這種事，你就不會這麼不是東西了。

Ni	yaoshi	yujian	*guo*	zhe	zhong	shi,	ni	jiu	bu	hui
2S	if	meet	GUO	this	kind	matter	2S	then	NEG	will

zheme	bushi	dongxi	le.
so	NEG	thing	PRT

If you had ever encountered such kind of situation, you would not have been such a jackass.

(53) 要是我從中賺<u>過</u>一個錢，天上現在有雲彩，教我五雷轟頂！

Yaoshi	wo	cong	zhong	zhuan	*guo*	yi-ge	qian,	tianshang
if	1S	from	this	make	NEG	one-CL	money	sky

xianzai	you	yuncai,	jiao	wo	wuleihongding!
now	have	cloud	make	1S	struck like a bolt of lightening

If I had ever made a penny out of it, as there are clouds in the sky, I would be struck by a blot of lightening.

We can use a simple method to judge whether the *guo*(過) in each of the above sentences expresses experiential meaning—by inserting *cengjing*(曾經) before the verb without changing the original meaning. The result of the test shows that *cengjing*(曾經)

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[41] For the complete list, please see Appendix II.

fits in all of the above sentences and therefore *guo*(過) in all the above sentences are experiential.

The difference could also be described by *immediate past* and *distant past* as has been claimed by Lixin Jin (2002). See the following examples:

(54)   a. 他控制<u>過</u>一天決定權。(can be replaced by *le*(了))

Ta   kongzhi   guo   yi tian   jueding   quan.

3S   control   GUO   one-day   decision   power

He obtained the power of decision for a day.

b.*他控制<u>過</u>一天決定權，<u>就被大家轟下來了</u>。

Ta   kongzhi   guo   yi   tian   jueding   quan,   jiu   bei

3S   control   GUO   one   day   decision power   then   BEI

dajia   hong   xialai   le.

everybody   roar   down   PRT

*He obtained the power of decision for a day and then was roared down by the public.

(55)   a. 他掌管<u>過</u>半天財務。(can be replaced by *le*(了))

Ta   zhangguan   guo   ban   tian   caiwu.

3S   charge   GUO   half   day   funds

He was in charge of funds for half a day.

b.*他掌管<u>過</u>半天財務，<u>就被換下來了</u>。

Ta   zhangguan   guo   ban   tian   caiwu,   jiu   bei   huan

3S   charge   guo   half   day   funds   then   BEI   replace

xialai   le.

down   PRT

*He was in charge of funds for half a day and then was replaced by someone else.

(56) a. 關過一夜的燈。(can be replaced by *le*(了))

Guan   guo   yi   ye   de   deng.

off   GUO   one   night   DE   light

The light went off for one night.

b.*關過一夜的燈，天已經亮了。

Guan   guo   yi   ye   de   deng,   tian   yijing   liang   le.

shut   GUO   one   night   DE   light   day   already   bright   PRT

*The light went off for one night before the dawn.

(Lixin Jin, 2002)

Although *guo*(過) in (54a)-(56a) can all be replaced by *le*(了), which reveals that *guo*(過) share perfective meaning with *le*(了), but (54b) – (56b) explicitly express their difference. When added a reference time (R) containing *jiu*(就)[42], the sentences are no longer well-formed, because the temporal setting is in contrast with the property of *guo*(過)$_2$ referring to distant past.

The following diagrams (Lingda Kong, 1995) may help to explain why CFCs in Chinese prefer *guo*(過)$_2$ over *guo*(過)$_1$.

Perfective *Guo*(過) (*guo$_1$*)
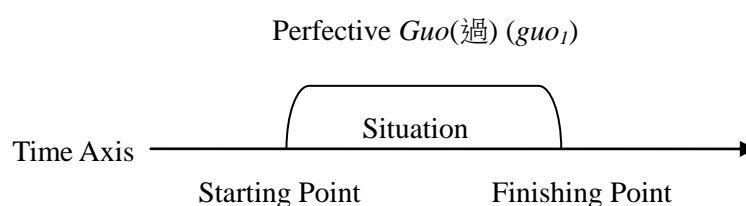
Figure 14

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[42] *Jiu*(就) is an adverb indicating a given action takes place immediately after another action.

Experiential *Guo*(過) (*guo₂*)
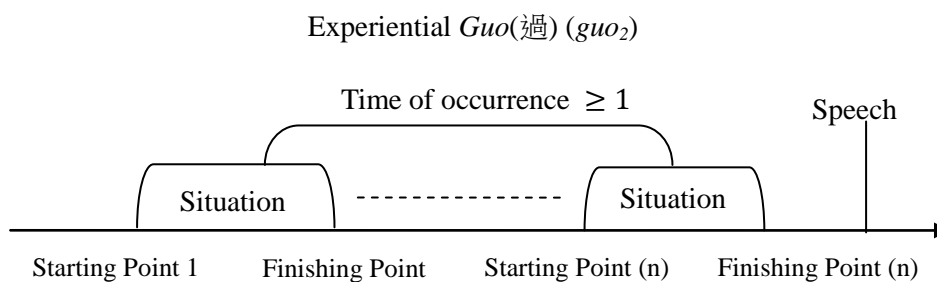
Figure 15

Perfective *guo*(過) solely indicates the way that the event or action is carried out, while experiential *guo*(過) relates the event to Speech Time. As the distant past property of *guo*(過)₂ puts a distance between the event time and speech time, it becomes the ideal candidate for CF ingredient. The study into the use of *guo*(過) once again leads support to our hypothesis.

4.2.3 Tense

Tense codes relations between Speech Time and Reference Time. There have been a lot of heated debates on this subject among Chinese linguists. The dispute mainly focuses on whether or not tense plays any concrete role in Chinese temporal system. Huang (1984) and Li (1990) claimed that the finite-nonfinite distinction in Chinese syntax is an evidence that there exists a phonologically empty tense category in the syntactic representation of a clause. Other linguists, such as Jianhua Hu and Haihua Pan (2001), Jo-wang Lin (2003) and Smith and Erbaugh (2005), argue that there is no evidence of (covert) tenses in Chinese. Although divergence of opinions remains, almost all the researchers agree that in Chinese there is no grammatically marked tense. Chinese, unlike English, does not use tense morphemes to mark the temporal location of situations, but the same purpose could be achieved by other means.

Smith and Erbaugh (2005) summarized three linguistic forms that play a role in temporal location in Chinese, which include aspect, lexical information and modal verbs,

and adverbs. Aspectual viewpoints are conveyed in Mandarin by aspect markers *le*(了)*,* *guo*(過)*, zai*(在)*, zhe*(著) and by zero-marked clauses. Zero-marked clauses equals to bare sentences. Verb constellations associated with a given situation type contribute to the determination of temporal location of a bare sentence. Lexical information is conveyed by Resultative Verb Complements, (such as *wan*(完)), past- and future-oriented verbs (such as *houhui*(後悔) and *jihua*(計畫)), and by modal verbs, (such as *hui*(會)*, yao*(要) and *jiang*(將), which all convey a future time for the complement). Temporal adverbs can be further classified into frame adverbs (such as *Tuesday*), connective adverbs, (such as *yihou*(以後)*, jiu*(就)*, cai*(才)), and frequency adverbs, (such as *changchang*(常常)). Forms are selected and work together to realize the deictic pattern of temporality in Mandarin. For example, present situations are unbounded, located at speech time. They can be expressed by clauses with aspectual *–zai*(在) or *–zhe*(著).

Based on the definition of CFCs, we can make some predictions:

a. A CFC naturally selects a past situation or an on-going situation as its protasis complement.

b. An indicative conditional naturally selects a future situation as its apodosis complement.

This prediction can be illustrated by the following examples:

(57)　如果張三昨天已經在工作合同上簽了字，今天根本不需要再去人才市場了。

Ruguo	zhangsan	zuotian	yijing	zai	gongzuo	hetong	shang
if	Zhang San	yesterday	already	on	work	contract	up

qian	le	zi,	jintian	genben	bu	xuyao	zai	qu	rencai
sign	LE	word	today	at all	NEG	need	again	go	talent

shichang	le.

market PRT

If Zhang San had signed the work contract yesterday, he did not need to go to the human resources market today. (a)

(58) 如果他真的那麼精明，早就另作打算了。

Ruguo	ta	zhende	name	jingming,	zao	jiu	ling	zuo
if	3S	really	so	shrewd	already	then	another	make

dasuan le.

plan PRT

If he were so shrewd, he would already have had other fish to fry. (a)

(59) 要是他下周來香港開會，請提前告訴我。

Yaoshi	ta	xia	zhou	lai	xianggang	kai	hui,
if	3S	next	week	come	Hong Kong	attend	meeting

qing	tiqian	gaosu	wo.
please	in advance	tell	1S

If he will come to Hong Kong to attend a meeting next week, please let me know in advance. (b)

It is possible for a hearer to think counterfactually when the situation has been realized, (or at least is considered by the speaker as has been realized), or is still going on, because only then could the speaker imagine the consequence without the realization of the situation and thus make a CFC. But if the situation has not occurred yet, we could not predict the possibility of its occurrence and therefore could not form a CF sentence.

Liming Cao (2009) discussed three types of pairing of tenses in the protasis and consequence of a CFC based on his own observations. These types include:

a. "Past" time indexicals occurring in the protasis;

b. "Present" time indexicals occurring in the apodosis;

c. "Past" time indexicals in the protasis and "present" time indexicals in the

apodosis.

On the first occasion, the past time indexicals work together with *zao*(早) to enhance speaker's emotions. On the second occasion, present time indexicals indicate temporal proximity and greater cognitive commitment, which leads to intensification of emotions. Finally, when both the protasis and the apodosis have time indexicals, the reference time of the situation can be clearly marked, which also facilitates the CF thinking of the reader.

Liming Cao (2009) provides us a very detailed explanation of the temporal indexicals in the CFCs in Chinese. From the cognitive linguistic perspective, his analysis shows that the temporal indexicals are not used to refer to a specific reference time, which is in conformity with the function of aspect markers and temporal adverb we discussed in the previous section. Their appearance only serves to facilitate the creation of a CF setting for hearers. He is well aware of the fact that most of the CFCs may need to be supported by certain context, but when temporal indexicals occur, the listeners are required of less cognitive effort to process the sentence. It is similar to the interpretation of CF ingredients within the relevance theoretical framework.

But at the same time, our own observations tell us that whether or not temporal indexicals appear in CFCs, the distribution of tense in such conditionals are much more complicated than Liming Cao's description. These three tenses, if appear in the protasis or apodosis of a CF conditional respectively, may ideally lead to at most nine combinations: $P_{(past)}+A_{(past)}$, $P_{(past)}+A_{(present)}$, $P_{(past)}+A_{(future)}$, $P_{(present)}+A_{(past)}$, $P_{(present)}+A_{(present)}$, $P_{(present)}+A_{(future)}$, $P_{(future)}+A_{(past)}$, $P_{(future)}+A_{(present)}$ and $P_{(future)}+A_{(future)}$[43].

Are all the above tense combinations applicable to Chinese CFCs? We try to collect corresponding example sentences for each category and obtain the following table.

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[43] P=Protasis; A=Apodosis.

Tense Combination	Examples
$P_{(past)}+A_{(past)}$	(60)
$P_{(past)}+A_{(present)}$	(61)
$P_{(past)}+A_{(future)}$	(62)
$P_{(present)}+A_{(past)}$	(63)
$P_{(present)}+A_{(present)}$	(64)
$P_{(present)}+A_{(future)}$	(65)
$P_{(future)}+A_{(past)}$	(66)
$P_{(future)}+A_{(present)}$	(67)
$P_{(future)}+A_{(future)}$	(68)

Table 12

(60) 如果我昨天就遇到他，而且他也跟我這樣講的話，我肯定不會寫早上那
封愚蠢的信。

Ruguo	wo	zuotian	jiu	yudao	ta,	er'qie	ta	ye
if	1S	yesterday	then	meet	3S	moreover	3S	also

gen	wo	zheyang	jiang	dehua,	wo	kending	bu	hui	xie
to	1S	this way	talk	if	1S	surely	NEG	will	write

zaoshang	na-feng	yuchun	de	xin.
morening	that-CL	stupid	DE	letter

If I had met him yesterday and he had told me the same thing, I definitely
would not have written that stupid letter this morning.

(61) 如果他已經一劍刺死了卓東來，也許反而沒有此時這麼平靜。

Ruguo	ta	yijing	yi-jian	ci-si	le	Zhuo Donglai,	yexu
if	3S	already	one-CL	stab-death	LE	Zhuo Donglai	maybe

fan'er	meiyou	cishi	zheme	pingjing.
contrary	NEG	now	so	calm

If he had already stabbed Zhuo Donglai to death, he probably would not be so
calm now.

(62) 要不是國家隊在過去的幾天裡全力備戰，他們想在明天的比賽裡擊敗對手幾乎是天方夜譚。

Yao   bushi   guojiadui   zai   guoqu   de   ji   tian   li

if   NEG   national team in   past   DE   several day   in

quanli   beizhan,   tamen   xiang   zai   mingtian   de

go all out   preparation 3P   want   in   tomorrow   DE

bisai   li   jibai   duishou   jihu   shi   tianfangyetan.

competition   in   beat   opponent   almost   be   Arabian nights

If it had not been the efforts of the National Team on the preparation, it would

almost be impossible for them to win in the competition tomorrow.

(63) 早知今日，何必當初。

Zao   zhi   jinri   hebi   dangchu.

already   know   today   why   at that time

It is too late to regret.

(64) 如果你是壞女人，這世上再沒有好女人了…

Ruguo   ni   shi   huai   nv'ren,   zhe   shi   shang   zai

if   2S   be   bad   woman   this   world   on   any longer

meiyou   hao   nv'ren   le.

NEG   Good   woman   PRT

If you were a bad woman, there would be no good woman in the world.

(65) 如果我是市長，我明天馬上給你頒發個勳章。

Ruguo   wo   shi   shizhang,   wo   mingtian   mashang

if   1S   be   mayor   1S   tomorrow   immediately

gei   ni   banfa   ge   xunzhang.

give   2S   present   CL   medal

If I were the mayor, I would present to you a medal tomorrow.

(66) 要是明晚沒有流星雨，你怎麼會上個週末去買望遠鏡呢？

Yaoshi ming wan meiyou liuxingyu, ni zenmehui

if tomorrow night NEG meteor shower 2S how

shang-ge zhoumo qu mai wangyuanjing ne?

last-CL weekend go buy telescope PRT

If there is no meteor shower tomorrow night, how would you go shopping for

a telescope last weekend?

(67) 要是明天不用交論文，今天我就能出去玩了。

Yaoshi mingtian bu yong jiao lunwen, jintian wo jiu

if tomorrow NEG use submit dissertation today 1S then

neng chu qu wan le.

can out go play PRT

If I do not need to submit my thesis tomorrow, I could hang out today.

(68) 如果明天天氣好一點，他可能要忙上一整天。

Ruguo mingtian tianqi hao yidian, ta keneng yao

if tomorrow weather good a little 3S maybe will

mang-shang yi zheng tian.

busy-up one whole day

If the weather is better tomorrow, he may have to be busy all day.

(CCL Corpus)

There are two general rules that control the use of tense in CF sentences. First, future tense is naturally excluded from the protasis of a CF sentence. As Müller (2002) put it, "the past is fixed, the future is open". A conditional sentence with a future protasis usually has indicative reading, such as ($P_{(future)}+A_{(future)}$) in the above chart.

The second rule concerns the Principle of Temporal Sequence (PTS), which is defined by Tai (1985) as the "relative word order between two syntactic units (which) is

determined by the temporal order of the states which they represent in the conceptual world." Juxtaposition of sentences and VPs also observe certain temporal order. Since according to Comrie (1986), conditionals in natural languages also show a cause-effect relationship, PTS should also have influence on the temporal order of conditionals, including CFCs. It is obvious because causes always come before results or consequences. Therefore, according to the temporal indexicals of all the example sentences listed in (Table 12), the combination of P$_{(present)}$+A$_{(past)}$, P$_{(future)}$+A$_{(past)}$ and P$_{(future)}$+A$_{(present)}$ should be invalid. However, we still find these three sentences with CF readings. They are grammatically perfect and semantically sound. Are they exceptions? Our answer is negative.

In (63), *jinri*(今日) is misleading, since the protasis does not talk about the situation of today. This sentence, if extended, can be interpreted like this:

(69)   If I had known that things would be like this now, I would not have made that

kind of mistake back at that time.

It is *zao*(早) that provides us a clue to work out the temporal interpretation for the protasis. Therefore, a natural explanation for the above sentence is that if I had known that the current situation would be like this, I would not have made such kind of mistake. The action "know" happens before "making such a mistake". This sentence in fact should belong to the P$_{(past)}$+A$_{(past)}$ category.

There are also temporal mismatches in sentence (66) and (67). The temporal references of these two conditionals, instead of tomorrow night in (66) and tomorrow in (67), are now at present. The protases of them are about the two beliefs held by speakers about what will happen in the future. Therefore, it is not a violation of our first principle, because we pointed out in the definition of CF sentences that the proposition in the protasis can be opposite to the reality or what the speaker believes to the reality or truth.

Similar examples can be found in other languages, such as Portuguese[44]. Future subjunctive in Portuguese is used to express a condition that is likely to be fulfilled or will be as is believed by the speaker. Compare the following two conditionals:

(70) a.

Se	(eu)	for	eleito	presidente,	**acabarei**
if	1S	Be (future tense)	elect	president	finish (future tense)
com	a	fome.			
with	a	famine			

If (I) am elected president, I **will end** famine.

b.

Se	(eu)	fosse	eleito	presidente,	**acabaria**
if	1S	Be (past tense)	elect	president	finish (past tense)
com	a	fome.			
with	a	famine			

If (I) were elected president, I **would end** famine.

(70a) is used when the speaker is likely to be elected president, but (70b) is used when it is unlikely.

The above analysis concerning the use of tense in CFCs reveals that the temporal anchoring of the protasis plays an essential role in the temporal account of the conditional. It determines where the situation occurs along the time axis. The temporal reference is not simply expressed through temporal indexicals, but rather the listener needs to judge whether the situation has been considered by the speaker as fixed.

4.3 More on Temporal Anchoring

Although in the previous section, temporal anchoring has been identified as an

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[44] Future subjunctive once existed in Spanish, but has now become nearly obsolete.

important factor that leads to counterfactuality, the whole concept of temporal anchoring remains unclear. Further explanations has to be made on the specific type of anchoring that is concerned here and its presentation through the use of *zao*(早), *le*(了) and *guo* (過).

Temporal anchoring here specially refers to time-distancing. By time-distancing, we mean that the event is pushed back before a certain spot prior to the reference time/speech time. This can be illustrated by the following examples:

(71) 如果你早來排隊，或許還能買到一套奧運會紀念幣。

Ruguo   ni   zao   lai   paidui,   huoxu   hai   neng   maidao

if   2S   earlier   come   queue   maybe   still   can   buy

yi-tao   aoyunhui   jinian   bi.

one-CL   Olympic   commemorative   coin

If you had come to queue earlier, maybe you could have got a set of commemorative coins.

(72) 如果你來排隊，或許還能買到一套奧運會紀念幣。

Ruguo   ni   lai   paidui,   huoxu   hai   neng   maidao

if   2S   come   queue   maybe   still   can   buy

yi-tao   aoyunhui   jinian   bi.

one-CL   Olympic   commemorative   coin

If you come to queue, maybe you can get a set of commemorative coins.

Conditional sentence (71) has CF reading. By inserting *zao*(早) before the verb phrase *lai paidui*(來排隊), the event of coming and queuing up has been pushed back to an unspecified past temporal point, as is shown in the following figure:

With *zao* (早)
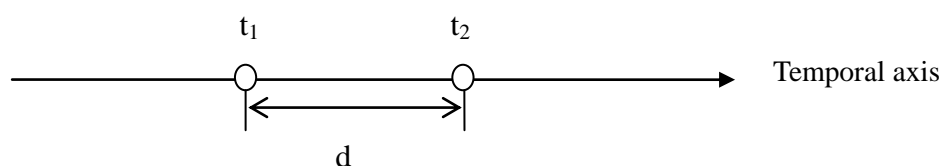
t₁ … t₂

Temporal axis

d

t₁: an unspecified temporal spot when the speaker thinks that the hearer should have come to queue.

t₂: the temporal spot when the speaker actually showed up to queue.

d: time distance caused by *zao* (早).

Without *zao* (早)
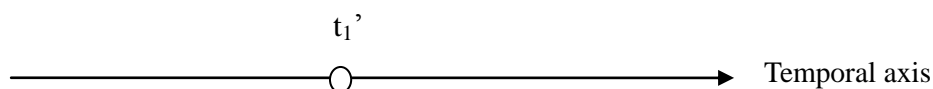
t₁'

Temporal axis

t₁': an unspecified temporal spot when the speaker thinks that the hearer should have come to queue.

Figure 16

Although we used the same definition for t_1 and t_1', they do not mean the same. The first temporal spot in (71) , t_1, is unspecific, because *zao* (早), although leading to temporal distancing, does not specify a specific time. In this case, *d* could be one hour earlier, or even one week earlier, depending on the context. The use of *zao* (早) here does not intend to indicate exactly when the speaker thinks that the hearer should have come. But in (72), the question is not when the hearer should come, but whether he comes or not. Therefore, t_1' in (72) is unspecific because it is not the issue that the speaker concerns about.

Through the comparison of the above pair of sentences, we have another finding,

which is: *zao* (早) tends to refer to an unspecified time length.

To provide evidence to support this point, we search through the corpus, CCL, using "*ruguo*(如果) + *zao*(早)" as key words with less than 11 (≦10) characters of spacing between them.

We have altogether 732 hits, among which 123 are legitimate examples (see Appendix III). In these hits, *zao*(早) is contained in the protasis and used as a CF ingredient to lead to the CF reading of the conditional sentence. Among the 123 conditionals, around 25 are followed by a specific temporal period. They can be further divided into two groups, as is shown in Appendix III. In the first groups, the speakers really mean the temporal period which follows *zao*(早), while in the second group, a specific number is only used to refer to an unspecific time length.

Two conclusions can be drawn based on the above observations.

First, since in most occasions, *zao*(早) in CFCs is not followed by a specific temporal period, and even if it does, the speaker wants to use it to convey either a subjective majority or a subjective minority, *zao*(早) is basically an unspecified temporal referent.

Second, the use of *zao*(早) as a CF ingredient has been semi-grammaticalized.

Grammaticalization refers to "the change where by lexical terms and constructions come in certain linguistic contexts to serve grammatical functions, and, once grammaticalized, continue to develop new grammatical functions" (Hopper & Traugott, 2003). It is an irreversible process from lexical meanings to grammatical meanings.

The use of *zao*(早) in CFCs also reflects this tendency. Most of them are used independently in a CFC without being followed by a temporal period.

(73) 如果早貼這個,村子裡能有這麼多病人嗎?

     Ruguo   zao   tie   zhe-ge,   cun-zi   li   neng   you   zheme

| if | | earlie | post | this-CL | village-ZI | in | | can | have | so |

| duo | | bingren | ma? |

| many | | patient | PRT |

If this had been post earlier, there could not have been so many patients in the village.

(74) 如果我<u>早</u>參加這個活動就不會違法了。

| Ruguo | wo | zao | canjia | zhe-ge | huodong | jiu | bu | hui |
| if | 1S | earlier | participate | this-CL | activity | then | NEG | will |

| wei | fa | le. |
| violate | law | PRT |

If I had participated in this activity earlier, I would not have broken the law.

(CCL Corpus)

It is not uncommon to find the use of *zaozhidao*(早知道) and *zaoyibu*(早一步) in CFCs:

(75) 如果<u>早知道</u>要交這麼多錢，我也就不會打了。

| Ruguo | zao | zhidao | yao | jiao | zheme | duo | qian, | wo |
| if | already | know | will | give | so | many | money | 1S |

| ye | jiu | bu | hui | da | le. |
| also | then | NEG | will | play | PRT |

If I had already known that it costs so much, I would not have played it.

(76) 如果能<u>早一步</u>把它曝光，那該有多好！

| Ruguo | neng | zao | yi-bu | ba | ta | baoguang, | na | gai |
| if | can | earlier | one-CL | BA | 3S | reveal | that | should |

| you | duo | hao! |
| have | so | good |

How wonderful it would have been if it could have been revealed earlier!

Moreover, as we have just argued, even if *zao*(早) is followed by a specific temporal period, there is still possibility that it is used to express subjective majority or subjective minority of time quantity.

These three facts suggest that *zao*(早) has experienced semi-grammaticalization, evolving from a lexical word meaning "earlier" or "already" to a grammatical word, a typical CF ingredient in Chinese. But at the same time, we also think it has only gone through the process halfway, as a small number of counterexamples can still be found.

From the use of *zao*(早) in a CF ingredient, time-distancing can be redefined in a more detailed way. It is a kind of secondary-anchoring, which means that two temporal points can be located along the temporal axis, instead of one. In Figure 17, t_1 and t_2 are the two temporal points that are set by the example sentence. If a conditional sentence in Chinese can determine two temporal points, it has CF reading.

The other two most often used temporal CF ingredients, namely *guo*(過) and *le₁* (了) also embody this feature.

In Section 4.2.2, we proved that the experiential *guo*(過) can lead to CF reading, because it has the distant past property, which puts a distance between the event time and reference time.

(77) 要是不曾發生過多好。

Yaoshi bu   ceng   fasheng guo   duo   hao.

if   NEG   once   happen GUO   so   good

If only it had not happened!
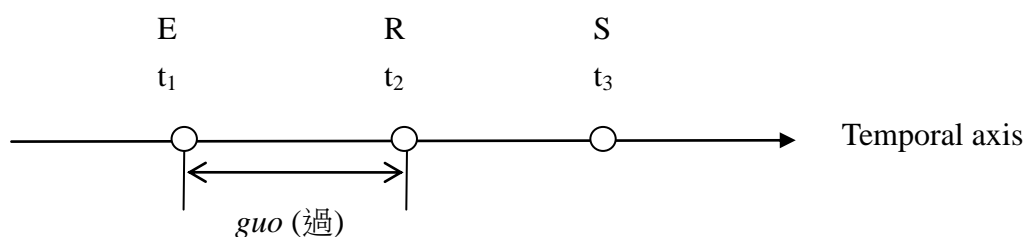
Figure 17

In example (77), t_2, the primary temporal point is indicated by *ceng*(曾) or *cengjing*(曾經), while the use of *guo*(過) puts a distance between *cengjing*(曾經), a past temporal point and the imaginary event time t_1. The point of t_2 always exists in a conditional protasis, as *cengjing*(曾經) is implied in a conditional clause containing experiential *guo*(過).

Le₁(了) is different from experiential *guo*(過) in that it does not always imply a past temporal adverb, such as *cengjing*(曾經), or a past temporal noun, such as *zuotian*(昨天). Therefore, only when a definite past temporal point is provided can CF reading can be obtained.

4.4 Interim Summary

In this part, we took a brief look at the Chinese temporal system and tried to explore how temporal elements affect the interpretation of a conditional sentence. Our examples show that static verbs are less likely to be the predicate verb of the protasis of a CFC, unless the static situation could be properly anchored temporally, such as being provided with an initial point. For this purpose and others alike, *zao*(早) could be used, mainly in the protasis as a way to realize counterfactuality. It is believed to be the only temporal adverb which possesses this unique property. From the perspective of aspect, perfective aspect is naturally related to CF reading while imperfective aspect is not. Aspect markers *le*(了) and *guo*(過) add CF flavor to conditional sentences due to their boundary functions. *Le*(了) can provide both temporal and attitudinal boundaries, while *guo*(過) can provide temporal boundary. Turing to tense, a protasis containing a situation or an event in time is more likely to be interpreted counterfactually. If a present situation appears in a protasis, the conditional can usually be interpreted in either way. And future tense rarely has any bearings on CF interpretation, unless it can be canhored to a belief that has been held already.

Do these seemingly complicated rules share a common trait? We find it convenient to provide an answer by giving a formal semantic account to the above mentioned elements. We will start with separate accounts of *le*(了), *guo*(過) and *zao*(早).

Jo-Wang Lin (2003) defined *le*(了) as a *realization* aspect marker instead of the traditional *completive*[45] marker. *Le*(了) as an event realization operator, was defined by him as below:

(78)

$$\llbracket le(了)\rrbracket = : \lambda P_{\langle s,t\rangle}\lambda t_2\lambda e\exists e'\left[P(e)\wedge P(e')\wedge e'\leq_E e\wedge \tau(e')\subseteq t_2\wedge t_2<\tau(e_{pro})\right]$$

In the above definition, *s* is a semantic type, standing for situations, events or states; *t* refers to the semantic type *t*, which carries a truth value; t_2 stands for the topic time (or reference time in our system)[46]; *e* refers to eventuality; e' is part of *e* and $\tau(e_{pro})$ equals to the speech time. The formula tells us that when *le* is applied to sentence meaning, there must exist an event *e* denoted by P and a part of *e*, e', that falls under P is contained within the topic time t_2. If *le* occurs in a subordinate clause, other parts remain the same except that (e_{pro}) also needs to be considered[47].

In our previous discussion on *le*(了), we decomposed its function into three: after a static verb in the protasis, after a dynamic verb in the protasis and in the apodosis as a sentence final particle. The first case and the second one differ in that the static situation still goes on which has the monotonic internal structure, while the dynamic event ends before the reference time. Therefore, in the context of a CF sentence, (78) can be rewritten into the following:

(79) (i)   If P is [+static]:

---

[45] In this dissertation it is known as *perfective aspect*.
[46] Jo-wang Lin borrowed from Klein (1994) a different system of times, which includes the time of utterance (TU), the time span at which a situation obtains (T-SIT or time of situation) and the time span about which an assertion is made (TT or topic time). According to Klein, tense expresses the relationship between TU and TT, and aspect expresses the one between TT and T-SIT. We believe that his TU roughly equals to speech time (ST) in our system, TT equals Reference Time (RT) and T-SIT, Event Time (ET).
[47] For details, please refer to Jo-wang Lin(2003).

$$\llbracket le(\text{了}) \rrbracket =: \lambda P_{\langle s,t \rangle} \lambda t_2 \lambda e \exists e'[P(e) \wedge P(e') \wedge e' \leq_E e \wedge \boxed{\tau(e') \subseteq t_2} \wedge t_2 < \tau(e_{pro})]$$

(ii)   If P is [−static]:

$$\llbracket le(\text{了}) \rrbracket =: \lambda P_{\langle s,t \rangle} \lambda t_2 \lambda e [P(e) \wedge \boxed{\tau(e) \subseteq t_2} \wedge t_2 < \tau(e_{pro})]$$

Since the third sub-function is not a temporal one, it will not be discussed here.

Guo(過), as has been proposed by Jo-wang Lin (2003), can be defined by the following logical formula:

(80)

$$\llbracket guo(\text{过}) \rrbracket =: \lambda P_{\langle s,t \rangle} \lambda t_2 \lambda e [P(e) \wedge \boxed{\tau(e) \subseteq t_2} \wedge t_2 < \tau(e_{pro})]$$

It indicates that when *guo*(過) is combined with the property P, there exists an event *e* with the property P, and the event time of *e* is included in the topic time t_2. It best described the feature of *guo*(過) in a CF context. Our previous study reveals that experiential *guo*(過), instead of perfective *guo*(過), occurs in a CFC. The former is identified as a CF component because of its ability to relate the event time to reference time. And such ability is missing in the latter.

The temporal meanings of *zao*(早) are similar to *le*(了) — when filling in a pre-static-verb position, it provides an initial temporal point; when filling in a pre-dynamic-verb position, it backshift the event. But *zao*(早), unlike *le*(了), does not directly relate event time to reference time. It pushes an event back before a certain temporal spot (′) which is known or unknown (unspecified) by neither the speaker nor the hearer, but is certainly before (or included in) the reference time.

(81)   (i) If P is [+static]:

$$\llbracket zao(\text{早}) \rrbracket =: \lambda P_{\langle s,t \rangle} \lambda t_2 \lambda e \exists e'[P(e) \wedge P(e') \wedge e' \leq_E e \wedge \boxed{\tau(e') \subseteq t_2} \wedge t_2 < \tau(e_{pro})]$$

(ii) If P is [−static]:

$$\llbracket zao \, (早) \rrbracket =: \lambda P_{\langle s,t\rangle}\lambda t_2\lambda e \big[P(e) \wedge \boxed{\tau(e) \subseteq t_2} \wedge t' \subseteq t_2 \wedge t_2 < \tau(e_{pro})\big]$$

The semantic definitions for *le*(了), *guo*(過) and *zao*(早) share the same element of $\tau(e') \subseteq t_2$, and this also explains why, when the protasis of the conditional is anchored in the past, (RT<ST), the CF reading of a sentence is more certain, because that means the event is not only located in the past, but there is a distance between the reference time and speech time.

CHAPTER FIVE   CF INGREDIENTS (II)

Unlike in English where counterfactuality is mainly conveyed through tense back shifting, CF ingredients in Chinese demonstrate more varieties. In addition to temporal expressions, CF reading in Chinese conditionals can also be deduced from some other ingredients. They include hypothetical conjunctions, negation, rhetorical questions, personal pronouns and CF enhancers. The purpose of this chapter is to collect, examine and analyze these seemingly trivial features and to illustrate how they are linked to counterfactuality.

5.1 Hypothetical Conjunctions

Logical connections between ideas in compound sentences are made explicit through the use of conjunctions. The following table shows some of the commonly used conjunctions in English and the logical relations they indicate.

Relations	Conjunctions
Addition and Replacement	➢ and, and also ➢ nor or, or else
Contrast and comparison	➢ but whereas while ➢ yet even though although ➢ (just) as while both...and neither...nor
Cause and Condition	➢ because since ➢ so so that

	in order that
	➤ if
Time and Place	➤ when/once
	after
	before
	➤ where
	here/there

Table 13

Conjunctions also play an important role in the identification and classification of different types of conditionals. Although they may come up with disparate division of conditionals, many linguists, such as Weixian Wang et al. (1994), Zongming Chen (1993) and Li Wang (1943), based their division of conditionals in Chinese on the conjunctions employed in the sentence. For example：

(1) <u>只有</u>太陽從西邊出來，他<u>才</u>來。

Zhiyou taiyang cong xibian chulai, ta *cai* lai.

only sun from west rise 3S cai come

Unless the sun rises from the west, he would come.

(2) <u>雖然</u>他很用功，<u>但</u>考試成績並不理想。

Suiran ta hen yonggong, *dan* kaoshi chengji bing

although 3S very hardworking but exam result At all

bu lixiang.

NEG ideal

Although he worked very hard, he did not do well in his exams.

According to Li Wang, (1) is a conditional sentence, while the two independent clauses in (2) express transitional meaning.

To give a more precise description of the meaning of conjunctions, as early as in 1946, Chao (1959) regard conjunctions as part of the tools with which Chinese logic operates. He observed that a necessary condition is expressed by *feidei…cai* (非得…才),

chufei...cai（除非…才）. And for logical disjunction, *huozhe…huozhe* (或者，或者) or

bu…jiu (不…就) are used. These two conjunctions are logically equivalent, because

they can be obtained from the definition of "if…then" in terms of "either…or":

(3) p ⊃ q   ■=■   ∼p ∨ q

These LFs indicate that "If p then q is defined as either not p or q".

Zongming Chen (1993) gave a more systematic account of the logical

interpretations of conjunctions in Chinese. He admitted that conjunctions semantically

reveal the internal logical relations of linguistic units that they connect. But *logical*

relations here are used in a broad sense, which means that they cover a wide range of

scope, including conditional relation, parallel relation, clausal relation and many more.

Yet not all of them can act as a logical operator and observe the rules of inference in

deductive systems. Zongming Chen (1993) then came up with five conjunctions in

common use that can be used as logical connectives:

Truth Value Connectors	Logical Operator
bingqie(並且)	∧
huozhe(或者)	∨
ruguo(如果)…*name*(那麼)	→
dangqiejindang(當且僅當)	↔
bingfei(並非)	¬

(Zongming Chen, 1993)

Table 14

Ordinary conjunctions are different from these connectors in that they are

polysemous and may express more than one logical relations, or even

non-truth-conditional meaning. They are not one-to-one correspondent to logical

operators as several different conjunctions may represent the same logical meaning.

Yan Jiang and Haihua Pan (2005) carried the idea further. They handled Chinese compound sentences within the extended system of Chinese sentences (C_p)[48]. Some basic compound sentences can be generated from the following formation rules and vocabulary:

(4) Conjunction

 1G C_p S → S Conj. [1] S2.

 2G C_p S → S1 S2 <Conj. [2]>. /S2 = NP Conjunction[2]…/

 Conj. [1] → ｛*bingqie*(並且), *qie*(且)、Ø｝.

 Conj. [2] → ｛*ye*(也)…｝.

(5) Disjunction

 3G C_p S → S1 Disj. [1] S2.

 4G C_p S → Disj.[2]<a>S1 Conj. [2]<b>S2

 Conj. [1] → ｛*huo*(或), *huozhe*(或者)…｝.

 Conj.[2] → ｛*bushi*(不是)<a> … *jiushi*(就是)<b>、*yaome*(要麼)<a> ... *yaome*(要麼)<b>、*huozhe*(或者)<a> ... *huozhe*(或者)<b>｝.[49]

(6) Sufficient Condition

 5G C_p S → Cond. [1]<a> S1S2<Cond. [1]<b>> /S2 = NP Cond. [1]<b>…/.

 Cond. [1] → ｛*zhiyao*(只要)<a>…*jiu*(就)<b>…｝.

(7) Necessary Condition

 6G C_p S → Cond. [2]<a> S1S2<Cond. [2]<b>> /S2 = NP Cond. [2]<b>…/.

 Cond. [2] → ｛*zhiyou*(只有)<a>…*cai*(才)<b>…｝.

(8) Necessary and Sufficient Condition

 7G C_p S → S1 Cond. [3] S2

 a. Cond. [3] → ｛*dangqiejindang*(當且僅當)｝.

---

[48] C_p system consists a set of syntactic rules (GC$_p$) and a set of semantic rules (TGC$_p$).

[49] Disjunction also contains a special type – exclusive disjunction, which is in contrast to inclusive disjunction, a normal type. The difference lies in that the former does not allow the two clauses that it operates on to be true at the same time.

b.   Cond. [3] ⇒ ↔

Hypothetical conditional is dealt with in the same way as conditionals, and they cannot be distinguished from each other in logical representation. In terms of truth conditions, indicative and CF relations can all be accounted for by the entailment operator (→). Counterfactuality cannot be described accurately in first order logic unless modal logic or other logical method is exploited.

Although what Yan Jiang and Haihua Pan (2005) provided us is not a complete list of Chinese conjunctions and their logical representations, it is apparent that several conjunctions may share one logical relation. Like in English, the relation of entailment can be expressed by *if, unless, only if, even if, in case (that)*, among which *if* can be used in both indicative and CF context. In Chinese, not only the number of hypothetical conjunctions exceeds that in English, the use of those conjunctions is even more complicated.

In Chinese, there are more than a dozen hypothetical conjunctions. They are connected with counterfactuality at different levels. Chao (1968) claimed that these conjunctions can be arranged into a continuum according to their CF generating capability:

yaoshi	*yao*	*jiaru*	*ruoshi*	*tangruo*	*jiaruo*	*jiashi*	*tangshi*	*sheruo*
要是	要	假如	若是	倘若	假若	假使	倘使	設若

CF–generating ability

Figure 18

Shuxiang Lü (1942/1982) and Yan Jiang (2000) however believed that there are no direct connections between CF reading of a conditional sentence and the conjunction it uses.

To examine whether or not there is a certain link existing between them, and for the

convenience of our discussion, we will now divide those commonly used hypothetical conjunctions into three types: i. must have CF reading, ii. may have CF reading, iii. without CF reading.

5.1.1 *Ruguo*(如果) (*Yaoshi*(要是), *Yao*(要), *Jiaru*(假如), *Jiashi*(假使), *Jiashe*(假設), *Tangruo*(倘若), *Ruruo*(如若), *Sheruo*(設若), etc.)

Ruoguo(如果) has always been regarded as the most typical hypothetical conjunction in Chinese because of its frequent appearance in conditional sentences in the language. But our search through the corpus shows that conditionals introduced by *ruguo*(如果) may have both CF and indicative readings:

(9) 如果你喜歡這張 CD,那麼你就拿走好了。

Ruguo	ni	xihuan	zhe-zhang	CD,	name	ni	jiu	na	zou
if	2S	like	this-CL	CD	then	2S	then	take	away

hao le.

good PRT

If you like this CD, you can just take it away. （Indicative reading）

(10) 如果我再年輕十歲、二十歲,可能就會明白。

Ruguo	wo	zai	nianqing	shi	sui,	ershi	sui,	keneng
if	1S	more	younger	ten	years	twenty	years	maybe

jiu hui mingbai.

then can understand

If I were ten or twenty years younger, I could have understood it better than you. (CF reading)   (CCL Corpus)

The interpretation for example (9) is open because what will happen after the utterance of the sentence is that the hearer may feel that he likes the CD and then will

take it way. Or, he may not like it and will leave it to the speaker. But example (10) can only be interpreted in a CF way because it is law of nature that once time goes away, it never comes back. The impossibility of the propositions in the protasis of the sentence already sets the tone for the CF reading of the conditional, and the consequence of it turns out to be unreal.

Other conjunctions in this category differ from *ruguo*(如果) in terms of frequency of use. *Yaoshi*(要是) is usually used orally, and *ruruo*(如若), *sheruo*(設若), which are rarely used in modern Chinese, only appear in written language. Yet in effect they share the same property when leading a conditional sentence, i.e. the capability of generating either indicative or CF interpretation. Even for conjunctions such as *jiaru*(假如), *jiashe*(假設) and *jiashi*(假使), their protasiss do not necessarily contain a false proposition.[50]

5.1.2 *Yaobushi*(要不是) (*Ruofei*(若非), *Ruobushi*(若不是), *Ruguobushi*(如果不是), etc.)

Yaobushi(要不是) manifests strong CF-generating[51] ability. A search into the data in the CCL[52] shows that almost all the conditionals starting with *yaobushi*(要不是) (used as a conjunction) have, and only have CF reading. Two sentences are quoted below:

(11)　要不是總理幾次提到你，我今天不會對你那麼客氣。

Yao　bushi　zongli　ji-ci　　　tidao　　ni,　wo　jintian　bu

---

[50] In contrast to Mandarin, *ruguo* and *yaoshi* are not in common use in Shanghai dialect. Everyday hypothetical conjunctions of open conditionals include *jiaru* and *jiashi*.
[51] It should be noted that it is still not safe to use the word "generating" here, because we are not clear whether the conditional has counterfactual meaning because of the use of this conjunction, or it is selected because it's suitable for a counterfactual context.
[52] We do not refer to the default corpus -- Chinese GigaWord 2 Corpus: Taiwan, traditional, because in the Mandarin used in Taiwan, *yaobushi* are rarely used either in written or in oral form.

| if | NEG | premier | Several-CL | mention | 2S | 1S | today | NEG |

| hui | dui | ni | name | keqi. |
| will | to | 2S | so | courteous |

If it were not the case that the Premier mentioned you several times, I would

not have been so nice to you today.

(12) 要不是後來李秀英對我的信任，我真不知道該怎麼辦。

| Yao | bushi | houlai | Li Xiuying | dui | wo | de | xinren, | wo |
| if | NEG | later | Li Xiuying | to | 1S | DE | trust | 1S |

| zhen | bu | zhidao | gai | zenme | Ban. |
| really | NEG | know | should | how | do |

If it were not for Li Xiuying's trust in me, I really would not have known

what to do.

(CCL Corpus)

Because of its unique feature, *yaobushi* has already become a must-have item on

the discussion list of most of the papers concerning CFCs (e.g. Yan Jiang 2000, Su 2008).

Previous studies reveal that its CF generating ability is attributable to its components:

negative operator + factual operator. Each character in this phrase makes contribution to

the features. According to "Eight Hundred Words in Modern Chinese"(《現代漢語八百

詞》), *yao*(要) sets hypothetical tone for a sentence, *bu* (不) is a negative operator and

shi(是) is a factual operator. *Yaobushi*(要不是) must be followed by a clause which

contains a proposition that corresponds to the actual world (Su, 2008). *Ruofei*(若非)

possesses the similar property, so we can regard both of them as typical CF

conjunctions.

There is another way of analyzing *yaobushi*(要不是) and *ruofei*(若非). We can

regard them as "conjunction + negator" form, the same structure as *nanbucheng*(難不成)

and *qibushi*(豈不是). The issue can thus be discussed under the title of negation. (See

5.2)

5.1.3 *Wanyi*(萬一)

Wanyi(萬一) is opposite to *yaobushi*(要不是), because this conjunction will not lead to CF reading. According to Xueping Zhang's (2008) description, *wanyi*(萬一) co-occurs with *jiu*(就)/*na*(那)/*najiu*(那就) in a conditional sentence, and its semantic structure can be represented by the formula below:

(13)   A+(*keshi*(可是)/*yinci*(因此)/*yinwei zheyang dehua*(因為這樣的話))

[*wanyi*(萬一)B+ (*jiu*(就)/*ye*(也) C]

A stands for the sentence which appears before *wanyi*(萬一) conditional, whose function is to provide context. Sentence A states a normal situation of the currently existing or imaginary people or things, or actions which should or should not take under normal situations (Xueping Zhang, 2008). B refers to the protasis of the conditional, and C, the apodosis. Clause B usually expresses an occurrence which the speaker does not want to take place, such as:

(14)   春節期間不能說"破"呀、"漏"呀、"沒了"等等，認為不吉利；萬一小孩吃
飯摔破了碗，老人們會邊收拾碎片，邊念叨著："歲歲(碎碎)平安"。

Chunjie	qijian	bu	neng	shuo	"po"	ya,	"lou"	ya,
spring festival	during	NEG	can	say	broken	YA	leak	YA

"mei	le"	dengdeng,	renwei	bu	jili;	wanyi	xiaohai	chi
NEG	LE	etc	regard	NEG	ominous	if	child	eat

fan	shuai	po	le	wan,	laorenmen	hui	bian	shoushi
meal	drop	break	LE	bowl	elders	will	while	collect

suipian,		bian	niandao	zhe:	"sui	sui		(sui
broken pieces		while	say	ZHE	year	year		broken

sui)   ping'an".

broken   peace

During the Spring Festival, ominous words like "broken", "leak" and "gone" should be avoided. If a child breaks a bowl during a meal, his elders will collect the broken pieces, saying, "Peace all year round".

(15) 萬一某個艙室漏水，就將這個艙的密封門關閉，其他艙室不進水，飛機就不會下沉。

Wanyi	mou-ge	cangshi	lou	shui,	jiu	jiang	zhe-ge	cang
if	certain-CL	cabin	leak	water	then	JIANG	this-CL	cabin

de	mifeng	men	guanbi,	qita	cangshi	bu	jin
DE	water-tight	door	close	other	cabin	NEG	enter

shui,	feiji	jiu	bu	hui	xia	chen.
water	plan	then	NEG	will	down	descend

If one of the cabins leaks, its watertight door will be closed so that other cabins will not take in water and the plane will not descend.

(CCL Corpus)

Compared with *yaobushi*(要不是), whose proposition contained in the protasiss corresponds to what happens in real life, *wanyi*(萬一) introduces a proposition which is impossible or will not happen, since the conjunction itself can be interpreted as "one out of ten thousand". So, the conditional that it introduces never has CF reading.

5.1.4 A Brief Summary

According to the CF-generating ability of these hypothetical conjunctions, they can be presented in the following chart:
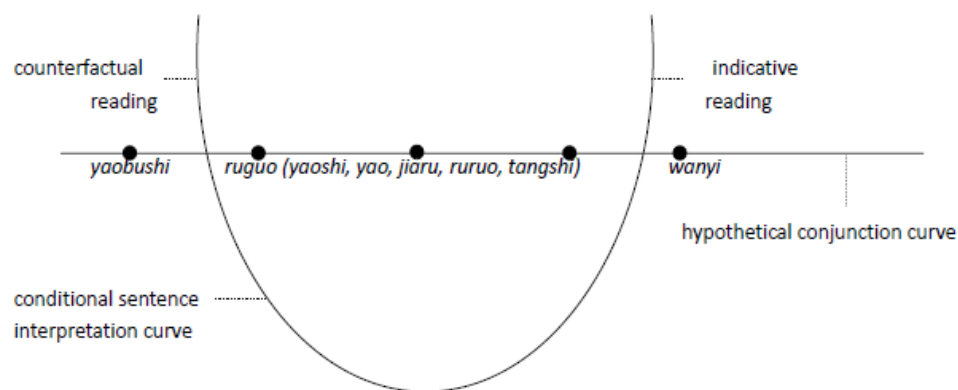
Figure 19

The above graph lists the conjunctions under discussion on the horizontal axis and the interpretations of conditionals with these conjunctions on the U-curve. CF reading and indicative reading are distributed on the left end and right end of curve with no clear line of division between these two readings. Since most of the Chinese hypothetical conjunctions are capable of leading conditionals with either reading, these conjunctions are distributed on the axis between the two points of intersections where the U-curve meets the axis. *Yaobushi*(要不是) and *wanyi*(萬一), on the other hand, are on the far ends of the axis where CF reading or indicative reading is more certain.

5.1.5 CF Sentences Without Conjunctions

Although the topic of this section is conjunction, we still think it necessary to mention briefly those CF sentences without conjunctions. They exist both in Chinese and in English.

In English, a CFC can be signaled by means of a subject-verb inversion. This inversion replaces the typical conjunction *if*.

(16)   Were Linda a better student, she would have a better relationship with her

instructors.

(=If Linda were a better student, she would have a better relationship with her

instructors.)

(17) Had Linda studied harder last fall, she would not have to take so many

courses this spring.

（=If Linda had studied harder last fall, she would not have to take so many

courses this spring.）

In Chinese, inversion is not required when a conjunction is omitted:

(18) 你不說，他怎麼會知道的那麼詳細。

Ni	bu	shuo,	ta	zenme	hui	zhidao	de	name	xiangxi.
2S	NEG	tell	3S	how	will	know	DE	so	detail

If you had not let out the secret, how could he have known it in such details?

(19) 身上不背著古玩，還能跑得更快呢！

Shen	shang	bu	bei	zhe	guwan,	hai	neng	pao	de
body	on	NEG	BEI	ZHE	antique	still	can	run	DE

geng	kuai	ne!
more	fast	NE

If I had not carried antiques on my back, I could have run much faster!

(Wei Hou, 2005)

For (18), a conjunction could replace the original zero-formed conjunction before the subject of the protasis *ni* (你), or be inserted between the subject *ni* (你) and the negator *bu* (不). It could be *ruguo*(如果), *yaoshi*(要是), *jiaru*(假如), etc. The same is true with sentence (19). But even without conjunctions, (18) and (19) still convey CF meaning.

The examples in Chinese may lead to two points. First, since conditionals may lead to CF reading both with and without conjunctions, the role that most conjunctions (except the *yaobushi*(要不是) type) play in generating counterfactuality is not a decisive one. Second, the zero-formed conjunction could be replaced by a lot of alternatives, such as *ruguo*(如果) and *yaoshi*(要是), but never the *yaobushi*(要不是) type, because the

replacement by the latter group would lead to the opposite meaning.

5.2 Negation

Negation has a close bearing on the CF reading of a conditional sentence. Su (2008) believed that CF reading is obtained by negating a proposition which is presupposed to be true. The relationship can be summarized into the following formula:

(20)   Negation + Fact → Counterfactuality

Yan Jiang (2000) thought of "negation of the protasis" as one of the grammatical characteristics of Chinese CF sentences. According to him, negation here specifically refers to metalinguistic negation – negation of relevant propositions in shared knowledge (between the communication partners). A variety of methods can be used to achieve this kind of negation, such as direct application of negators, expressing meaning which is contrary to the context yet without negator, and paradox contained in the protasis.

Although context-based and knowledge-based contrasts may also lead to CF reading, the focus of this section would be solely on the tangible elements, i.e. a variety of negators. Therefore, we only consider the situations when negators appear, but not otherwise. From a wider perspective, however, affirmation in the protasis of a CFC is also a kind of negation, because it introduces an event which actually did not happen. Even without a negator in the protasis or the apodosis, there is still possibility that the conditional concerned affirmed the unoccured event, which leads to the negation of reality. In this sense, the quintessence of CF meaning is generalized negation.

Chinese hypothetical conjunctions may contain a negator (such as *yaobushi*(要不是) and *ruofei*(若非)), or be combined with a negator (such as *ruobushi*(若不是) and *ruguobushi*(如果不是)). They invariably lead to CF reading. The same rule cannot be applied to English, although some of the English conjunctions already contain negative element, such as *unless*. Yan Jiang (2000) did not regard negative hypothetical

conjunctions as part of the CF ingredients, but rather the negation of events already occurred. The reason is that if the protasis is introduced by such kind of conjunction, it always points to an event which already occurred. Negation of an already occurred event naturally generates CF reading. Although we totally agree with Yan Jiang on the relationship between negation and counterfactuality, we have reservations on his denial of negative conjunctions as CF ingredient. No definite answer can be provided to prove that the use of such conjunctions will lead to a proposition containing a fact, or vice visa. It is a chicken-and-egg paradox, so discussing them separately may not lead to an ideal solution.

Negators can appear only in the protasis:

(21) 我要是<u>沒有</u>秦君的幫助，怎麼能回國呢？

Wo yaoshi *meiyou* Qinjun de bangzhu, zenme neng hui

1S if NEG Qinjun DE help how can return

guo ne?

country NE

If it had not been for Qin Jun's assistance, how could I have returned home?

(22) 如果你剛才<u>沒</u>擋住我，也許我就能看見他了。

Ruguo ni gangcai *mei* dang zhu wo, yexu wo jiu

if 2S just NEG block ZHU 1S maybe 1S then

neng kan jian ta le.

can look see 3S PRT

If you had not blocked my view just now, I might have seen him.

(CCL Corpus)

They may appear only in the apodosis:

(23) 假如你早結了婚，我也<u>不</u>會嫁給你了。

Jiaru	ni	zao	jie	le	hun,	wo	ye	*bu*	hui
if	2S	already	get	LE	marry	1S	also	NEG	will

jia	gei	ni	le.
marry	to	2S	PRT

If you had already married, I will not have married you.

(24) 要是孫光明還活著，他饒不了你。

Yaoshi	Sun Guangming	hai	huo	zhe,	ta	rao-*bu*-liao
if	Sun Guangming	still	live	ZHE	3S	let- NEG-off

ni.
2S

If Sun Guangming were still alive, he could not have let you off.

<div align="right">(CCL Corpus)</div>

They can also appear in both:

(25) 沒有共產黨就沒有新中國。

Meiyou	gongchan	dang	jiu	*meiyou*	xin	zhongguo.
NEG	communist	party	then	NEG	new	China

Without the Chinese Communist Party, there would be no New China.

(26) 如果中國沒有過去二十年的改革開放，便趕不上這次重大的一步。

Ruguo	zhongguo	*meiyou*	guoqu	ershi	nian	de	gaige
if	China	NEG	past	twenty	year	DE	reform

kaifang,	bian	gan-*bu*-shang	zhe-ci	zhongda	de	yi
open	BIAN	catch-NEG-up	this-CL	important	DE	one

bu.
step

Without the reform and opening up policy in the past two decades, China could not have made such great progress.

Negation on the protasis may take different forms. Negator *bushi*(不是) can be inserted between hypothetical conjunction and its proposition to negate habitual events and already-occurred events. In this case, *bushi*(不是), together with the conjunction before it, can form a structure which resembles *yaobushi*(要不是):

(27)<u>如果不是</u>普克朗年事已高，早該把他關進集中營。（如果不是=要不是）

Ruguo	*bushi*	pukelang	nian shi	yi	gao,	yinggai	ba
if	NEG	Planck	years	already	high	should	BA

ta	guan	jin	jizhong	ying.
3S	close	enter	concentrate	camp

> If it had not been that Max Planck was senile in age, he should already have been confined to the concentration camp.

(28)<u>如果不是</u>兩會期間出現了一件轟動性的事件，合肥會議的精神肯定就會很快地在全國更大的範圍得到貫徹落實。（如果不是=要不是）

Ruguo	*bushi*	liang	hui	qijian	chuxian	le
if	NEG	two	session	during	appear	LE
yi-jian	hongdongxing	de	shijian,	Hefei	huiyi	de
one-CL	sensational	DE	incident	Hefei	meeting	DE
jingshen	kending	jiu	hui	hen	kuai	de
spirit	definitely	then	will	very	quickly	DE
zai	quanguo	geng	da	de	fanwei	dedao
in	nation-wide	more	big	DE	scope	receive
guangche	luoshi.					
implement	practice					

> If it had not been for the sensational incident during the two sessions, the spirit of the Hefei meeting surely should have quickly been implemented in a wider range nationwide.

Among all the negators in Chinese, *bushi*(不是) has the strongest CF-reading generating ability. It is because it contains both a negative operator—*bu*(不) and a factive operator—*shi*(是), which satisfies the basic requirement of a CF sentence.

Meiyou(沒有) is used to negate noun phrases. The event or the person that is referred to in the noun phrase indeed exists when the sentence is uttered or during the time indicated by the protasis of the conditional:

(29) 要是<u>沒有</u>你們,梧州的後果將不堪設想。

Yaoshi *meiyou* nimen, Wuzhou de houguo jiang bu kan

if NEG 2PL Wuzhou De result will NEG bear

shexiang.

imagine

If it had not been for your, there would have be the devil to pay in Wuzhou.

(30) 要是<u>沒有</u>計劃生育,中國在過去 20 年裡要多增加 2.6 億人口。

Yaoshi *meiyou* jihua shengyu, zhongguo zai guoqu 20 nian

if NEG plan birth China in past twenty years

li yao duo zengjia 2.6 yi renkou.

in will more increase 260 million population

If it had not been for the implementation of Family Planning, 26 million more people would have been born in China in the past two decades.

Bu and *mei*(沒)(*you*(有)) are the two most commonly used negators in Chinese. As has been held by many linguists (Ting-chi Tang 1994, Li and Thompson 1981, Yuzhi Shi and Na Li 2000), they are in complementary distribution. According to Ting-chi Tang (1994), *bu*(不) can negate verbs (except *you*(有)), adjectives or even adverbs. *Mei*(沒) can negate verbs (including *you*(有)) and nouns. When *bu*(不) appears in a clause, it

presents the negation of the general state. But when *mei*(沒) appears in a clause, it presents the negation of an event which has happened already. *Bu*(不) can be the negation of the subjective desire, which means that the subject is not willing to have an action. In contrast, *mei*(沒) *(you*(有)*)* is the negation of an existing action. It is not subjective. Further, from the perspective of realis/irrealis, *bu*(不) always selects irrealis events, while *mei*(沒)*(you*(有)*)* selects realis ones.

Although CFCs fall under the irrealis category, our search into the corpus reveals that *mei*(沒) is more commonly used than *bu*(不):

(31)　如果冰心老人始終<u>沒</u>離開過早年的那個家，那麼今天的回家夢也就失去了任何意義。

Ruguo	Bing Xin	laoshi	shizhong	*mei*	likai	guo	zao	nian
if	Bing Xin	elderly	throughout	NEG	leave	GUO	early	year

de	na-ge	jia,	name	jintian	de	hui	jia	meng	ye
DE	that-CL	home	then	today	DE	return	home	dream	also

jiu	shiqu	le	renhe	yiyi.
then	lose	LE	any	meaning

If Mrs. Bing Xin had not left home at her early age, her dream of returning home today would have been meaningless.

(32)　如果頤穀<u>沒</u>著迷，也許他會讚揚愛默俏麗動人。

Ruguo	Yi Gu	*mei*	zhaomi,	yexu	ta	hui	zanyang	Ai Mo
if	Yi Gu	NEG	obsess	maybe	3S	will	compliment	Ai Mo

qiaoli	dongren.
beautiful	touching

If Yi Gu had not been obsessed (with another girl), he would have complimented Ai Mo on her beauty.

(CCL Corpus)

There are several possible explanations on the choice of *mei*(沒) over *bu*(不) in such conditionals. First, *mei*(沒) is objective negation and *bu*(不) is subjective negation. When the former appears in the protasis of a conditional sentence, it presents an objective situation, creating a possible world for the hearer through the utterance. When the latter appears, subjective emotions are added so that it is implied that the conditional is merely a possibility out of the imagination of the speaker. In the second case, the conditional is more likely to be interpreted in an indicative way. For example:

(33) 要是<u>沒</u>偷，就不會被打斷腿。

  Yaoshi *mei*   tou,   jiu   bu   hui   bei   da   duan   tui.

  if   NEG   steal then NEG   will BEI   beat broken leg

  If he had not stolen anything, his leg would not have been broken.

If *mei*(沒) is replaced by *bu*(不), revisions on the consequence are required so that the sentence will not sound awkward:

(34) 要是<u>不</u>偷，就不會被打斷腿。

  Yaoshi *bu*   tou,   jiu   bu   hui   bei   da   duan   tui.

  if   NEG   steal then NEG   will BEI   beat broken leg

  If he does not steal anything, he would not have suffered a broken leg from other's beating.

CF sentence (33) is thus turned into an indicative conditional (34).

The second explanation has something to do with their temporal indications. *Mei*(沒) is always used to negate an already occurred event, while *bu*(不) is applied to a future event:

(35) 明天的會他<u>不</u>去。

  Mingtian   de   hui   ta   *bu*   qu.

  tomorrow   DE   meeting 3S   NEG   go

  He will not go to tomorrow's meeting.

(36) *明天的會他<u>沒</u>去。

    Mingtian   de   hui   ta   *mei*   qu.

    tomorrow   DE   meeting   3S   NEG   go

    *He did not go to tomorrow's meeting.

(37) 昨天的會他<u>沒</u>去。

    Zuotian   de   hui   ta   *mei*   qu.

    yesterday   DE   meeting   3S   NEG   go

    He did not go to yesterday's meeting.

(38) *昨天的會他<u>不</u>去。

    Zuotian   de   hui   ta   *bu*   qu.

    yesterday   DE   meeting   3S   NEG   go

    He will not go to yesterday's meeting.

Our observation shows that the more definite the proposition contained in the protasis is positioned in the past, the more likely the conditional has CF reading. Since negator *mei*(沒) is used to negate past event, it is easier to facilitate time distancing and appears more often in CFCs than *bu*(不).

The special application pattern of negators to CF sentence can also be illustrated within the framework of quantitative flexibility principle.

In the physical world, objects can be measured by their quantitative properties – discrete or continuous. Discrete quantity refers to one which has clear boundary and can be separated into several individuals. Continuous quantity refers to one which is boundless and cannot be split up into any individual. When this concept is introduced into linguistic studies, some revision needs to be made. Those words which refer to discrete objects are regarded as discrete words and whose which refer to continuous objects as continuous words. Yuzhi Shi(1992) attached quantitative features to the three basic word classes in Chinese:

	Noun	Verb	Adjective
Continuous Quantity	—	+	+
Discrete Quantity	+	+	—

(Yuzhi Shi, 1992)

Table 15

Yuzhi Shi (1992) also admitted that *bu*(不) and *mei*(沒) are of complementary distribution, but his distinction is based on the quantitative properties of them. It is easy to understand why a typical noun is discrete and a typical adjective is continuous. A noun (e.g. apple) indicates a certain group of objects (e.g. the kind of fruit called apple), and the group is composed of countless individuals (apples). An adjective (e.g. beautiful) describes some abstract quality. Although the quality can be further divided into different levels (e.g. extremely beautiful, very beautiful, fairly beautiful, barely beautiful), neighboring levels usually do not have a clear-cut boundary between them. Verbs can be discrete or continuous depending on the angle from which it is viewed. If it is viewed from inside, what we have observed is only part of the process and the verb is therefore continuous. If it is viewed from the outside, it has both the starting point and end point. As a bounded unit, the verb is taken as discrete.

Bu(不) is classified as the continuous because it always operates on adjectives and verbs. *Mei*(沒) is classified as the discrete because it is always followed by nouns and fixed quantity verbs. Interestingly enough, the use of negators in CF sentences follow the same rule.

When there are predicate adjectives appearing in a CF conditional, negator *bu*(不) is applied:

(39) 如果他不聰明，就考不上重點大學了。

Ruguo ta *bu* congming, jiu kao bu shang zhongdian

if   3S   NEG   smart   then   exam   NEG   up   key

daxue   le.

university   PRT

If he were not smart enough, he would not have been admitted to a key

university.

(40)   如果成功的可能性<u>不</u>高的話，我的許多同胞或許根本不會去嘗試。

Ruguo   chenggong   de   kenengxing   *bu*   gao   dehua,   wo   de

if   success   DE   possibility   NEG   high   if   1S   DE

xuduo   tongbao   huoxu   genben   bu   hui   qu   changshi.

many   compatriot   maybe   fundamental   NEG   will   go   try

If the likelihood of success were not high, many of my compatriots would not

even have had a try.

(CCL Corpus)

When there is only a noun phrase occupying the protasis, *mei*(沒) is used. On this

occasion, *mei*(沒) and *meiyou*(沒有) are interchangeable.

(41)   如果<u>沒(有)</u>《秘密花園》這部電視劇，玄彬很可能從此星途黯淡。

Ruguo   *mei(you)*   《mimi huayuan》   zhe-bu   dianshi ju,   Xuanbin

if   NEG   secret   garden   this-CL   TV   drama   Hyun Bin

hen   keneng   cong   ci   xing   tu   an'dan.

very   possible   from   now   star   career   gloomy

If it were not for the TV drama "Secret Garden", the prospects of Hyun Bin's

acting career would have looked gloomy.

(42)   如果<u>沒(有)</u>善良的弟弟提奧的傾力相助，梵古的生活將會更加狼狽不堪。

Ruguo   *mei(you)*   shanliang   de   didi   ti'ao   de   qingli

if   NEG   kind   DE   younger brother   Theo   DE   selfless

xiangzhu, fangu de shenghuo jianghui gengjia langbeibukan.

help Van Gogh DE life will more miserable

If it had not been for his kind-hearted brother Theo's selfless help, Van

Gogh's life would have been even more miserable. (CCL Corpus)

The classification of verbs (or verb phrases) from the perspective of quantitative features sounds familiar because CF sentences select verbs in a similar vein. In the analysis of temporal features, we have concluded that by putting some temporal distance between the speaker and the past event, counterfactuality can be generated. Such events are usually with starting time or finishing time or both to set a boundary with the reference time. It is no wonder the discrete *mei*(沒) is a more suitable negator for this kind of conditional than the continuous *bu*(沒). The following two sentences show the difference:

(43) 如果他（早上）沒鍛煉身體，不會這麼精神抖擻的。

Ruguo ta (zaoshang) *mei* duanlian shenti, bu hui zheme

if 3S morning NEG exercise body NEG will so

jinshendousou de.

energetic PRT

If he had not taken any exercise (this morning), he would not have been full of energy.

(44) 如果他不鍛煉身體，一天都會覺得精神不大好。

Ruguo ta *bu* duanlian shenti, yi tian dou hui jue

if 3S NEG exercise body one day all will feel

jinshen bu da hao.

spirit NEG so good

If he does not take any exercise, he would be in bad spirit.

Although the same verb phrase is used in these two conditionals, they do not share

the same quantitative interpretation. (43) is a CFC and *duanlian shent*i (take physical exercise) is a past event. It is bounded and thus is discrete in quantity. (44) is an indicative conditional and the same verb phrase is perceived as a habit or a general state. It is therefore unbounded and is continuous.

A special negator which we have not mentioned yet is *bushi*(不是). When it follows immediately a hypothetical conjunction, such as *jiaru*(假如), *ruguo*(如果) and *ruo*(若), the conditional almost certainly has CF reading:

(45)　假如<u>不是</u>醫生提前留下你，去了冬奧會就太危險了。

Jiaru *bushi* yisheng tiqian liu xia ni, qu le

if NEG doctor in advance leave down 2S go LE

dongaohui jiu tai weixian le.

winter Olympics then too dangerous PRT

If it had not been that the doctor asked you to say, it would have been too dangerous for you to participate in the Olympics.

(46)　如果<u>不是</u>遇到過大年,這個(山竹的)價錢您還可以砍一砍。

Ruguo *bushi* yu dao guo danian, zhe-ge

if NEG meet DAO GUO Chinese New Year this-CL

(shanzhu de) jiaqian nin hai keyi kan yi

mangosteen fruit DE price 2S still can bargain one

kan.

bargain

If it were not for the Chinese New Year, you could have knocked down the price of mangosteen fruit somehow.

(47)　若<u>不是</u>巡邏的武警趕來搭救，小命休矣！

Ruo *bushi* xunluo de wujing gan lai dajiu,

if   NEG   patrol   DE   military policeman   hurry   come   save

xiaoming   xiu   yi!

life   end   PRT

If it had not been for the patrolling military policeman who came to rescue

you, you would already have died!

L. H. Yeh (1995) pointed out that *bushi*(不是) occurs in constructions of
metalinguistic negation and contrastive negation, because its characteristic use is to
reject and refer to a focus of a sentence. It is used in such a way that it not only indicates
an objection to a prior utterance but also is related to a focused constituent of a sentence.
To prove that it is an objection to a prior utterance, it is always followed by a rectified
clause. We believe that in CF sentences containing this copula negator, *bushi*(不是)
demonstrates the same property:

(48)   假如不是醫生提前留下你，(而是讓你馬上離開，)去了冬奧會就太危險
       了。

Jiaru   *bushi*   yisheng   tiqian   liu   xia   ni,   (ershi   rang

if   NEG   doctor   in advance   leave   down   2S   but   let

ni   mashang   likai,)   qu   le   dong'aohui   jiu   tai

2S   immediately   leave   go   LE   winter Olympics   then   too

weixian   le.

dangerous   PRT

If it had not been that the doctor asked you to say, (instead of asking you to

leave immediately,) it would have been too dangerous for you to participate in

the Olympics.

(49)   如果不是遇到過大年,（而是在平時的日子，）這個(山竹的)價錢您還可
       以砍一砍。

Ruguo	*bushi*	yudao	guo	danian,		(ershi	zai
if	NEG	meet	celebrate	Chinese New Year		but	in

pingshi	de	rizi,)	zhe-ge	(shanzhu		de)	jiaqian	nin
ordinary	DE	day	this-CL	mangosteen fruit		DE	price	2S

hai	keyi	kan	yi	kan.
still	can	bargain	one	bargain

If it were not for the Chinese New Year, (but instead it were ordinary days,) you could have knocked down the price of mangosteen fruit somehow.

(50) 若<u>不是</u>巡邏的武警趕來搭救，（而是根本沒人發現，）小命休矣！

Ruo	*bushi*	xunluo	de	wujing		gan	lai	dajiu,
if	NEG	patrol	DE	Military policeman		hurry	come	save

(ershi	genben		meiren	faxian,)	xiaoming	xiu	yi!
but	fundamentally		nobody	find	life	end	PRT

If it had not been for the patrolling military policeman who came to rescue you, (but rather nobody had found you,) you would already have died!

The clauses included in the pairs of brackets in (48), (49) and (50) indicate an alternative situation which is in contrast to the real situation and is out of the imagination of the speaker. Although for most occasions such clauses are omitted, because there may be too many alternatives to be listed and the speaker only wants to emphasize on the reality. But even if they do not appear, *bushi*(不是) still implies the other alternatives. This explains why the proposition which follows *bushi*(不是) states the factual situation, but the conditional as a whole expresses CF meaning.

The negators can thus be arranged according to their ability to generate CF reading:

Bushi(不是) > *mei*(沒) (*you*(有)) > *bu*(不)

5.3 Personal Pronouns

The interpretation of a conditional sentence is also related to the personal pronouns used as subject in the protasis.

Personal pronouns in Chinese include *women*(我們)/*zanmen*(咱們) (we), *nimen*(你們)/*ninmen*(您們) (plural form of you), *tamen*(他們) (they), *wo*(我) (I), *ni*(你)/*nin*(您) (you), *ta*(他)(he), *ta*(她)(she), *ta*(它)(it). Just like in English, Chinese personal pronouns can be divided into three groups: first person (*women*(我們)/*zanmen*(咱們), *wo*(我)), second person (*nimen*(你們)/*ninmen*(您們), *ni*(你)/*nin*(您)) and third person (*tamen*(他們)/*ta_{he}*(他)/*ta_{she}*(她)/*ta_{it}*(它)). If the information conveyed in the protasis is about the speaker himself or herself, *wo*(我)/*women*(我們) is likely to be selected as the subject. The information in this case can be called the *utterer's information*. The same rule can be applied to the other two groups of personal pronouns and we then come up with hearer's information and information about the third person.

Although the relationship between personal pronouns and CF interpretation has never been mentioned in previous literature, we find the following pairs of examples intriguing.

(51) a. 如果<u>你/他</u>去過美院，便會看到這樣一幅畫面…

Ruguo	*ni/ta*	qu	guo	meiyuan	bianhui	kan dao
if	2S/3S	go	GUO	academy of arts	will	see

zhe	yang	yi-fu	huamian…
this	kind	one-CL	scene

If you have /he has ever been to the Academy of Arts, you/he will see such a scene…

b. 如果<u>我</u>去過美院，就能給你描述所見所聞…

Ruguo	*wo*	qu	guo	meiyuan,		jiu	neng	gei
if	1S	go	GUO	Academy of Arts		then	can	give

ni	miaoshu	suo-jian	suo-wen…
2S	describe	what-see	what-hear

If I had ever been to the Academy of Arts, I could have described to you such a scene…

(52) a. 如果你/他是高居頂部的少數人，你/他就擁有了你/他想要的一切。

Ruguo	*ni/ta*	shi	gao	ju	ding-bu	de	shao-shu
if	2S/3S	be	high	position	top-part	DE	small-number

ren,	ni/ta	jiu	yongyou	le	ni/ta	xiang	yao	de	yiqie.
people	2S/3S	then	own	LE	2S/3S	think	want	DE	all

If you are/he is one of those at the top, you/he will have everything you want/he wants.

b. 如果我是高居頂部的少數人，我就擁有了我想要的一切。

Ruguo	*wo*	shi	gao	ju	ding-bu	de	shao-shu
if	1S	be	high	position	top-part	DE	small-number

ren,	wo	jiu	yongyou	le	wo	xiang	yao	de	yiqie.
people	1S	then	own	LE	1S	think	want	DE	all

If I were one of those at the top, I would have everything I want.

(53) a. 如果你/他在少體校打過籃球的話，高考時就可以加分。

Ruguo	*ni/ta*	zai	shao-ti-xiao	da	guo	lanqiu
if	2S/3S	in	junior-sport-academy	play	GUO	basketball

dehua,	gao-kao	shi	jiu	keyi	jia	fen.
DEHUA	college-entrance-exam	when	then	can	add	point

If you have/he has ever been a basketball player at a junior sports academy, you/he will have bonus points added to your college entrance

exam.

b. 如果<u>我</u>在少體校打過籃球的話，高考時就可以加分。

Ruguo	*wo*	zai	shao-ti-xiao		da	guo	lanqiu
if	1S	in	junior-sport-academy		play	GUO	basketball

dehua,	gao-kao		shi	jiu	keyi	jia	fen.
if	college-entrance-exam		when	then	can	add	point

If I had ever been a basketball player at a junior sports academy, I would have had bonus points added to my college entrance exam.

When the subject of the above protasiss *ni*(你)/*ta*(他) is replaced by the first person *wo*(我), the interpretations of these conditionals are shifted from open to CF. These contrastive examples show that the first-person pronoun has stronger CF generating ability compared with the second and third person pronoun.

We now take *ruguo*(如果) as an example, because it can generate both CF reading and open reading. *Ruguo*(如果) can be followed by either an imaginary situation or an uncertain situation depending on the interpretation it intends to generate. But it could never be followed by a proposition which is considered to be true by the speaker, because this would violate the semantic requirement of the conjunction. In this part of the discussion, we will not concern ourselves about *yaobushi*(要不是), because it is too strong a CF ingredient to generate a non-CF reading. Neither will conditionals containing future tense protasis be mentioned, since future situation is uncertain unless the speaker holds the belief that it will be realized.

Now consider the case when the subject of the protasis is a first-person pronoun: *wo*(我)or *women*(我們). Since it is not allowed for *ruguo*(如果) to introduce a factual proposition (see sentence (54)), the proposition should be either uncertain or CF. And in the first person perspective, uncertain situation only occurs when the protasis is in future tense (see sentence (55)), because the speaker under normal situations should have full

knowledge about himself and his past experience. It therefore can be concluded that conditionals with first person as their protasis subject can only have CF reading when it is a proposition about past event or past experience (see sentences (51b), (52b) and (53b)).

(54) *如果我參加了這次選舉，結果會很不一樣。

Ruguo	*wo*	canjia	le	zhe-ci	xuanju,	jieguo	hui	hen
if	1S	participate	LE	this-CL	election	result	will	very

bu	yiyang.
NEG	same

*If I had been a candidate for this election, the result would have been totally different.   (I was a candidate.)

(55) 如果我明天來找你，會事先給你打電話的。

Ruguo	*wo*	mingtian	lai	zhao	ni,	hui	shi	xian
if	1S	tomorrow	come	find	2S	will	event	before

gei	ni	da	dianhua	de.
give	2S	call	phone	PRT

If I will join you tomorrow, I will give you a call in advance. (open reading)

Here, pure speculative thinking about physical, chemical, biological or astronomical (im)possibilities is out of the question, because such thinking does not have 1st person as the subject.

The situation is different if the second-person or third-person pronouns take the place of protasis subject. Since the proposition concerned is no longer the speaker's own experience, it could be facts or what the speaker believes to be facts, or it could only be a possibility. Even if a conditional is in the past tense, it is still possible to have open reading.

Compared with the protases containing third-person pronouns, those with

second-person pronouns are more inclined to have CF interpretation. In a conversation, the hearer is always at the scene and is the one who *you* is used to refer to. So, if the proposition is about the observable features of the hearer, the sentence is usually CF, such as:

(56)　如果<u>你</u>很胖，穿黑色的衣服才合適。

Ruguo　*ni*　hen　pang, chuan hei　se　de　yifu　cai

if　　2S　very　fat　　wear　black color DE　dress　only

heshi.

fit

　If you were fat, you should have dressed in black. （In fact you are not.）

But as we have discussed before, this dissertation only focuses on the tangible features – the ingredients – of a CFC, and those factors that are related to context will not be emphasized. Thus the CF generating ability of pronouns can be illustrated as below:

$$Wo(我)/women(我們) > ni(你)/nimen(你們) > ta(他/她)/tamen(他們)$$

5.4 Rhetorical Questions

Rhetorical questions always appear in the apodosis of a Chinese CFC. The exploitation of such a construction also leads to CF reading on most occasions. And when the protasis of a conditional is describing a past event or a current homogeneous situation, such reading is almost guaranteed:

(57)　Protasis containing past event (CF reading)

　　a. 如果沒有當年砸毀劣質冰箱，怎麼會有今天的金牌呢？

　　Ruguo　meiyou　dang　nian　za　　hui　　lie　　zhi

　　if　　NEG　　that　year　smash　destroy　poor　quality

bingxiang,　　zenme　hui　you　jintian　de　jin-pai　　ne?

refrigerator　how　will　have　today　DE　old-medal　PRT

If it were not for the famous incident of smashing refrigerators that year,

how could it have been possible to have won so many gold medals today.

b. 如果沒有客卿，秦國怎麼會強大起來呢？

Ruguo　meiyou　keqin,　　　qin-guo　zenme　hui　qiangda

if　　NEG　alien-minister　Qin-State　how　will　strong-big

qi-lai　　ne?

up-come　PRT

Without the alien minister, it would not have been possible for the state of

Qin to have grown stronger.

(58)　Protasis with future event (open reading)

a. 如果我說會害怕，難道你就趕回家？

Ruguo　wo　shuo　hui　haipa,　nandao　ni　jiu　gan

if　　1S　say　will　scare　can it be　2S　then　hurry

huijia?

return home

If I say that I will be scared, will you just come back home?

b. 如果他們一步步的迫進來，難道我們一點也不加抵抗麼？

Ruguo　tamen　yi-bu-bu　　de　po　jin　lai,　nandao

if　　3PL　one-step-step　DE　press　enter　come　can it be

women　yi-dian　ye　bu　jia　dikang　me?

1PL　　one-bit　also　NEG　add　resist　PRT

If they close in upon us, should not we enhance resistance even a bit?

(CCL Corpus)

Another observation we have made on the use of rhetorical questions is that in

order to appear in a CF sentence, such a question usually needs to contain a modal verb, such as *yinggai*(應該), *neng*(能) and *hui*(會):

(59) 孔子曾經說過:"如果沒有大禹, …, 哪裡還會有人呢!

Kong Zi   cengjing   shuo   guo;   "ruguo   meiyou   Da Yu, …,

Confucius   once   say   GUO   if   NEG   Da Yu

nail   hai   *hui*   you   ren   ne!

where   still   will   have   people   PRT

Confucius once said, "Without Da Yu, how <u>could</u> human beings have existed on earth?"

(60)   如果這首詞是嶽飛寫的,怎麼會把地點寫錯呢?

Ruguo   zhe-shou   ci   shi   yuefei   xie   de,   zenme   *hui*

if   his-CL   poem   be   Yue Fei   write   DE   how   will

ba   didian   xie   cuo   ne?

BA   address   write   wrong   PRT

If this poem were written by Yue Fei, the famous Chinese patriot of the Southern Song Dynasty, how <u>could</u> he have written the name of the place wrongly?

(CCL Corpus)

Tianyu Yu (2007) made a detailed research into Chinese rhetorical questions. She revealed the relationship between the construction and the use of modal verbs from the perspective of semantic reference. The semantic references of rhetorical sentences can be divided into two types – one which refers to the truthfulness of the speech act (such as (61)), and the other which refers to the appropriateness of the speech act (such as (62)).

(61) (你說降低燃油稅,) 你是國家領導人?

(Ni	shuo	jiang-di	ranyou	shui,)	ni	shi	guojia	lingdao
2S	say	decrease-low	fuel	tax	2S	be	national	leader

ren?

person

(You said you wanted a fuel tax reduction.) You think you are a state leader? (truthfulness)

(62) (這是什麼話,) 怎麼能怪人家沒通知你呢?

(Zhe	shi	shenme	hua,)	zenme	neng	guai	renjia	mei
this	be	what	word	how	can	blame	others	NEG

tongzhi	ni	ne?
inform	2S	PRT

(What do you mean?) How can you blame others for not informing you? (rationality)

Rhetorical questions such as (62) are not intended to represent the intension of the agent of the action, but rather to convey the subjectivity of the speaker. This subjectivity may lead to a comment or a judgment, which can turn into a subjective suggestion to the listener (Tianyu Yu, 2007). So, if we take (62) as an example, the purpose of uttering this sentence is not to prove whether or not the listener blamed someone else, but to express the belief of the speaker that the listener should not blame others. And this utterance may at the same time serve as a suggestion to the listener. Such kind of rhetorical questions meets the requirement of the CF sentence apodosis, because they state the hypothetical situation when the (CF) condition in the protasis is fulfilled. They are hypothetical because they are based on the subjective judgment and conjecture of the speaker, and in this sense, it only concerns the rationality aspect of the proposition.

The relationship between a rhetorical question and its ability to generate CF reading can be perceived from the degree of certainty. Rhetorical questions are a special kind of

question which does not expect an answer but is poised for persuasive effects. In such a question, the negative proposition is affirmed:

(63)　他哪兒去北京了？（他一直在香港呆著呢。）

	Ta	na'er	qu	Beijing	le?	(ta	yizhi	zai	xianggang
	3S	where	go	Beijing	PRT	3S	along	in	Hong Kong

	dai	zhe	ne.)
	stay	ZHE	PRT

He has not gone to Beijing. (He has been staying in HK all along.)

The proposition of (63) is p:

(64)　He has gone to Beijing. (p)

The negative proposition of it is ～p：

(65)　He has not gone to Beijing (～p)

And sentence (63), although in question form, confirms that he has not gone to Beijing.

Wh-expressions such as *nali*(哪裡), *shenme*(什麼)，*zenme*(怎麼) can be used to convey negative meaning when they are used in pre-modal positions in rhetorical questions. They hence are called "negative wh-words" (Yam-Leung Cheung, 2009). Ka-Fat Chow (2011) even quantified the degree of interrogation and worked out the semantic value of the rhetorical question:

(66)　　　　　　　　　　P(～A)≈1

We agree with Ka Fat Chow that because such kind of construction is still in question form and therefore the degree of certainty of its negative proposition (～p) (or the opposite to degree of interrogation) cannot be taken as exactly 1. It is very much close to the point of 1, but not to the point yet. Further, it could be negated by an answer containing the relevant proposition:

(67)　甲：你難道沒聽說過切爾諾貝利事件？

Jia: Ni   nandao mei   ting-shuo guo   qie'ernuobeili shijian?

A: 2S   even   NEG   hear-say   GUO   Chernobyl   accident

A: Haven't you heard of the Chernobyl Accident?

(A(p) = B has not heard of the Chernobyl Accident)

乙：我確實沒聽說過啊。

Yi: wo   queshi   mei   ting-shuo guo   a.

B: 1S   surely   NEG   hear-say   GUO   PRT

B: I surely have not heard of it.

(B(p) = B has not heard of the Chernobyl Accident = A(p))

Another concept we need to borrow here for the convenience of our discussion is "degree-entailment". Proposed by Bergmann in 2008, "degree-entailment" is defined as follows. Suppose there are two propositions q and q',

(68) q degree entails q' if and only if for any model, [q] < [q']

This principle is applicable to those propositions whose truth value is neither 1 nor 0. It indicates that other things being equal, if a proposition with low possibility can be realized, then a proposition with high possibility can also be realized.

Applying this principle to the current discussion, we need to compare the possibility of a rhetorical question and that of its corresponding negative proposition. Our previous discussion shows that the value of certainty of a rhetorical question is approximately 1, which means that although it is quite certain, it is not as certain as a statement. To make it vivid, it may contain 99% of the possibility that the proposition will come true, and 1% of the possibility that it may not. Yet its corresponding negative proposition is 100% for sure:

(69)   Did not Jack go to Japan?

= The speaker is almost certain that Jack went to Japan. But there is still one in a million chance of him not going.

(70) Jack went to Japan.

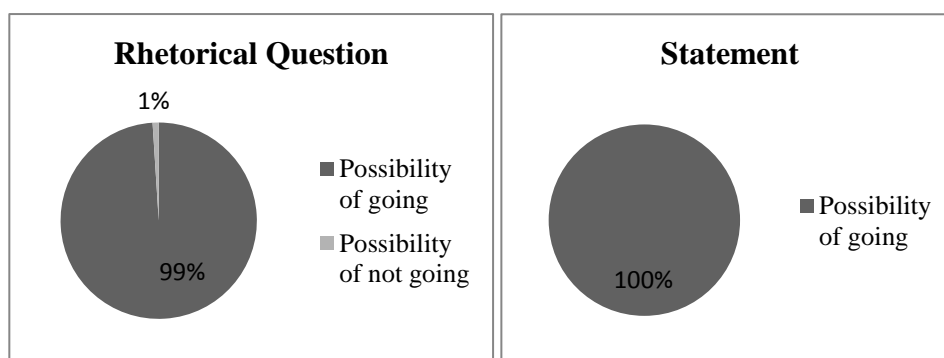=The speaker takes Jack's going to Japan as a fact.

Figure 20

We can conclude from (69) that there are more chances to realize the negative proposition of a rhetorical question than the relevant proposition of a statement, because even if Jack did not go, the rhetorical question still stands. The degree of possibility of realizing a statement is lower than that of a rhetorical question and therefore a statement entails a corresponding rhetorical question. When they share the same protasis and become the apodosis of a CFC respectively, the former degree-entails the latter, which means if the former is true, the latter must also be true, but even if the former is false, the latter also has the chance to be true. This explains why rhetorical questions are more likely to lead to CF reading than a statement.

5.5 CF Enhancers

CF enhancers refer to those words or expressions which do not play an essential role in a sentence. That is to say, when they are eliminated from a sentence, the sentence still remains grammatical. In a CFC, the concrete meaning of these CF enhancers are usually neglected and they are used to enhance the CF reading. We have observed several typical enhancers through our search in the corpus. They include: *zhende*(真的) (in the protasis), *zai*(再) (in the protasis), *xie*(些) (in the protasis), *hai*(還) (in the

protasis), *zao*(早) (in the protasis), *zaojiu*(早就) (in the apodosis), *le*(了) (in the apodosis final position). Since *zao*(早), *zaojiu*(早就) and *le*(了) have already been discussed in Chapter Four, we will focus on the remaining four in this section.

Zhende(真的) always appears in the protasis of a CF sentence:

(71) 要是我<u>真的</u>中了三千七百萬六合彩，我馬上就辭職。

Yaoshi	wo	*zhen*	*de*	zhong	le	san
If	1S	really	DE	win	LE	three

qian	qi	bai	wan	liuhecai,	wo
thousand	seven	hunsband	ten thousand	Mark Six	1S

mashang	jiu	ci	zhi.
immediately	then	quit	job

If I won the lottery of 37.6 million, I would quit my job right away.

(72) 如果他<u>真的</u>偷了錢，那他就得進監獄。

Ruguo	ta	*zhen*	*de*	tou	le	qian,
if	3S	really	DE	steal	LE	money

na	ta	jiu	dei	jin	jianyun.
then	3S	then	should	enter	prison

If he had stolen money, he should have been put in jail.

Zhende(真的) was analyzed by Yan Jiang(2000) from relevance-theoretic perspective. By using Iatridou's (1997) method of setting two epistemic contexts – "I do not know that…" and "I know that…", he proved that *zhende*(真的) could only occur in the latter and is therefore always accompanied by CF meaning. According to him, the term *zhende*(真的) itself does not have CF implication. But when it is inserted in the protasis of a conditional sentence, it brought with it the implicature of "unexpectedly" and "extremely difficult to achieve", which clearly indicates that the proposition

contained in the protasis is taken out of the common ground[53] of both of the interlocutors. The relevant possible world and the actual world have thus been pulled apart, and CF meaning arises.

The construction of *zai*(再)...*xie*(些) is another frequently used structure in the protasis of CFCs in Chinese. It is a typical comparative construction and has several variants.

When *zai*(再) occurs with a verb, *duo*(多) needs to be added to form the following structure:

(73) *zai duo* + V + numeral-measure phrase

In this case, *duo*(多) cannot be omitted. Otherwise, it will only serve as an additive particle[54]. See the following two sentences:

(74) 如果昨天的考卷<u>再</u>多檢查幾遍，興許就能過了。

> Ruguo   zuotian   de   kaojuan   *zai*   duo   jiancha   ji-bian,
>
> if   yesterday De   exam-paper again   more   check   several-CL
>
> xingxu   jiu   neng   guo   le.
>
> probably then   have   passed   PRT
>
> If I had examined yesterday's exam paper a few more times, I could probably have passed the exam.

(75) 如果你<u>再</u>去香港，最好帶上我。

> Ruguo   ni   *zai*   qu   xianggang,   zuihao   dai-shang   wo.
>
> if   2S   again   go   Hong Kong   better   take-up   1S
>
> If you go to Hong Kong again, you'd better take me with you.

(74) gives a CF narration of the past event. The speaker did not check his exam

---

[53] A sociological notion. It was introduced by David Lewis, and corresponds to Stephen Schiffer's "mutual knowledge," or relevance theory's "mutual cognitive environment".

[54] An additive particle expresses that the predication holds for at least one alternative of the expression in focus. (Krifka, 1999)

paper for enough times so that he failed the exam. Yet *zai*(再) in (75) has repetitive reading. According to both traditional grammars and monographic studies (such as Xiwen Ma (1985)), repetitive *zai*(再) is confined to future contexts. So, (75) can only have open reading.

Zai(再) can also occur with attributive predicates (Xiwen Ma, 1985) describing states and be interpreted as a change of state:

(76) *zai* + adj.+ numeral-measure phrase

Conditionals whose protasis contains this construction usually have CF reading.

(77) 如果我再年輕十歲，二十歲，可能就會明白。

Ruguo	wo	*zai*	nianqing	shi	sui,	ershi	sui,	keneng
if	1S	again	younger	ten	year	twenty	year	maybe

jiu	hui	mingbai.
then	can	understand

If I were ten or twenty years younger, I would probably understand it.

When the attributive predicate is followed not by a numeral-measure phrase indicating a specific quantity (such as *shisui* (ten years) in (78)), but by an indefinite quantifier, such as *xie*(些) or *dian*(點), the same effect can still be achieved.

(78) 如果當初魏鶴齡家境再好些，她也許不會嫁裴明倫了。

Ruguo	dangchu	Wei Heling	jiajing	zai	hao	*xie*,
if	at that time	Wei Heling	family situation	again	good	more,

ta	yexu	bu	hui	jiagei	Pei	Minglun	le.
3S	maybe	NEG	will	marry	Pei	Minglun	PRT

If Wei Heling's family situation had been better at that time, she might not have married Pei Minglun.

(79) 如果我當時再成熟些，我會知趣地走開。

Ruguo	wo	dangshi	zai	chengshu	*xie*,	wo	hui	zhiqu
if	1S	at that time	again	mature	more	1S	will	sensibly

de	zou-kai.
DE	walk-away

If I had been more mature at that time, I would have sensibly walked away.

(CCL Corpus)

In both (78) and (79), *zai*(再) can be omitted, yet the comparative structure remains the same and the CF reading is still there. *Xie*(些), as a quantifier in the post-adjective position, means *a little bit*. Therefore, we can infer from (78) that Wei's family situation was not good enough, and from (79) that I was not mature enough.

But no matter which form of the comparative construction is taken and no matter whether it occurs with an adjective or a verb, CF reading always accompanies this construction. We believe the reason lies in the presupposition of the comparative structure. The comparative construction we find in the CFCs is self-comparative in nature. It is a comparison between the state in reality and a hypothetical state. The real state is presupposed in the sentence, as we can see from (74), (77), (78) and (79). The hypothetical state overwrites the fact and thus creates a possible world which is different from the actual world. Since it meets the two criteria of realization of counterfactuality: fact + negation, CF reading is thus generated.

Sentence (79) can be used to illustrate this point. It is presupposed in the protasis that I was not mature enough at a certain point of time in the past, which is taken as a fact. The protasis introduced by "if" creates such a possible world in which I was more mature than I was at that point of time, and it is a negation of the past fact. The intension of the speaker is to express the regret that he was not mature enough and therefore he did not leave at that time.

Hai(還) in the protasis of CFCs means "still". In traditional Chinese grammar, it

indicates a continuation of a state:

(80) 要是孫光明還活著，他饒不了你。

Yaoshi	Sun Guangming	*hai*	huo	zhe,	ta	rao	bu
if	Sun Guangming	still	live	PROG	3S	let off	NEG

liao	ni.
RES	2S

If Sun Guangming were still alive, he would not have let you off.

(81) 如果這些資料還在，該多好！

Ruguo	zhexie	ziliao	*hai*	zai,	gai	duo	hao!
if	these	material	still	in	should	so	good

How wonderful it would be if these materials had still been kept.

<div align="right">(CCL Corpus)</div>

Liu (2000) explained the meaning of *hai*(還) relying on the scalar model of Fillmore, Kay and O'Conner (1988). Liu believes that *hai*(還) is a scalar operator and it carries presupposition force. It evokes a relationship between two propositions (text proposition and context proposition) in a scalar model. When *hai*(還) means continuation of state, its relevant dimension is a dimension of persistence through time. We take the protasis of (80) as an example. On the above mentioned dimension, Sun Guangming's being alive now ranks higher than his being alive at a particular time in the past. Thus in a scalar model the text proposition Sun Guangming were still alive now implies the context proposition that he was once alive[55].

Hai(還) is originally used to stress continuation. Yet being put together with hypothetical conjunctions, it indicates that a certain state no longer exists. Compare the following sentences with the above two examples:

(82) 要是孫光明活著

---

[55] For the detailed derivational process, please refer to Section 3.1 of Feng-his Liu (2000).

Yaoshi   Sun Guangming   huo   zhe, …

if   Sun Guangming   live   PROG

If Sun Guangming were alive, …

(83)   如果這些資料在，……

Ruguo   zhexie   ziliao   zai,…

if   these   material   in

… if these materials had been kept.

With *hai*(還), the protases are more likely to have a possible interpretation. So, the function of *hai*(還) is to remind the listener of the actual state.

5.6 Summary

Through the above discussion, we can also regard hypothetical conjunctions, negation, rhetorical questions, personal pronouns and CF enhancers as triggers of CF context in a CFC. We cannot make the assertion that they are the sole markers for CFCs, since they themselves have more than one meaning and usage and other syntactic elements (such as conjunctions and tense) are also needed to determine CF reading in a sentence. However, it is appropriate to label them as CF ingredients, because without them, the CF reading of a conditional would be weakened. Their main task is to bring out the association between the hypothesis and the reality. The hypothesis will remind the hearer of the reality.

CHAPTER SIX GENERATING COUNTERFACTUALITY IN MANDARIN CONDITIONAL SENTENCES

In Chapter 4 and Chapter 5, detailed discussions have been carried out on the features of those ingredients which frequently appear in CFCs and attempts have been made to provide some explanations to their connection with CF meaning. In this chapter, a further discussion regarding the establishment of the interpretation of a CFC will be carried out. Based on the observation of these individual ingredients, we will explore the generating process of CF meaning. Since the analysis will be made with the assistance of semantic theories, such as minimalism and contextualism, the basic concepts of these theories will be sketched out at the beginning of this chapter.

6.1 Context Determinism vs. Ingredient Determinism

Since Bloom's research, the opinions on the generating of counterfactuality in Chinese can be roughly divided into two kinds: those which attribute it solely to the role of context and those which emphasize the function of CF ingredients, resembling subjunctive mood in English. The former is thus named here "context determinism" and the latter, "ingredient determinism".

Both Bloom (1981) and Yan Jiang(2000) are advocators of context determinism, although they reached different conclusions. Bloom's idea, repeated here, is that while English and other Indo-European languages have distinct CF markers, Chinese does not. Counterfactuality in Chinese can only be expressed through context. This difference can be used to explain the deviation in the ways of thinking of English speakers and their Chinese counterparts. Yan Jiang (2000), on the other hand, denied the existence of CF ingredients in both Chinese and English. His argument is based on his observation that all the so-called CF markers, no matter in Chinese or in English, are not CF-specific. CF

reading is obtained through pragmatic inference.

Although context plays an essential role in the generation of CF reading, the importance of CF ingredients cannot be neglected. Why is it that when people read a conditional sentence, even without being provided an immediate context, they can still tell on most occasions whether it is an indicative or a CFC? When we refuse to admit the existence of such linguistic elements that will lead to certain linguistic judgment, and when such linguistic judgment is connected with a phenomenon which is widely accepted as an independent grammatical category, the theoretical explanation thus come up with cannot reflect language users' language intuition. So, the fact that Yan Jiang (2000) took CF ingredients as a pragmatic shortcut which triggers CF meaning is a worthy compromise.

Another problem encountered by almost all the supporters of context-determinism is the working mechanism of context for a CFC. In most works either the process is omitted (like in Bloom's work), or turns to some omnipotent tool, such as relevance theory. Even with RT tapping into the junction of context and counterfactuality, since it only emphasizes on the psychological and cognitive process of the interlocutors, the linguistic aspect (i.e. the interaction between encoded meaning and pragmatic inference) remains a black box.

It is difficult to find an absolute supporter of ingredient-determinism. The reason largely lies in the complex and varied ways of expressing counterfactuality in Chinese, compared with the systematic and direct use of subjunctive mood in English CFCs. To leave no room for attacks, linguists who tend to mainly follow this path always use context to make up for the possible loopholes that CF ingredients might not cover in the interpretation of conditionals. Guohua Chen's (1988) discussion mainly demonstrates how CFCs (referred to as hypothetical conditionals in Guohua Chen's paper) are indicated in Chinese. They have grammatical forms, which is contrary to Bloom's belief.

But his paper ends with an observation that grammatically unmarked hypothetical conditionals exist in both English and Chinese, which means that the reading of a certain number of CFCs need to be judged from context. Feng and Yi (2006) designed three experiments with the purpose of proving the existence of linguistic forms that "reliably predict a CF reading of a Chinese sentence". They admitted in their findings that these forms work together with contextual cues to highlight counterfactuality. That means they can both work alone and work together with context.

Linguists have every reason to be cautious about adopting ingredient determinism, because, for one thing, we have some conditionals in Chinese which do not contain any CF ingredients, but still can be interpreted in a CF way. It could be a violation of natural law:

(1) 如果大伏天裡飄下鵝毛大雪，我就相信你說的話。

Ruguo dafu tian li piao-xia e mao da-xue, wo jiu
if dog day in drift-down goose down big-snow 1S then

xiangxin ni shuo de hua.
believe 2S say DE word

If it snows fluffy snow on a dog day, I will believe what you say. (CCL Corpus)

It could also be a conditional whose protasis needs to be weighed against the discourse context, such as:

(2) 倘若摔壞了那玉，豈不是因我之過。

Tangruo shuai-huai le na yu, qi bushi yin
if drop-broken LE that jade how NEG because

wo zhi guo
1S ZHI fault

If that peace of jade had been broken, it must have been my fault. (Guohua

Chen, 1988)

Similar examples abound in both Chinese and English.

For another, it is difficult to set a definite scope to *context*. It is such a broad and vague concept that it can cover the linguistic forms within a sentence, refer to the information provided before or after a certain utterance, and even mean the physical environment during the process of utterance production. In this way, ingredient determinism may be even taken as part of context determinism. Thus, this theory cannot stand by itself.

6.2 Minimalism, Contextualism and Indexicalism

There is always a difference between an utterance and the information about the world it conveys (Stanley, 2007). Even if we understand the meaning of all the words in a sentence, and know the grammatical structure of it, we may still find that the literal meaning is not exactly the meaning intended to be conveyed by the interlocutor. CFCs in Chinese, our major concern in this dissertation, offer typical examples. Consider the following conditional:

(3) 如果地球繞著月亮走，那麼張娜就能拿下網球大滿貫。

Ruguo diqiu rao zhe yueliang zou, name Zhang Na jiu

if earth around PROG moon travel then Zhang Na then

neng na-xia wangqiu damanguan.

can take-down tennis Grand Slam

If the earth travels around the moon, then Zhang Na can win the tennis Grand Slam.

The literal meaning of (3) is that when the conditional that the earth travels around the moon is fulfilled, the apodosis that Zhang can win the tennis Grand Slam can be realized. This interpretation is obtained by adding up the meaning of the words and

expressions of the sentence, which is different from the meaning that the speaker intends to convey. It does not seem possible that we draw the conclusion that Zhang Na never has the chance to win the tennis Grand Slam. We cannot find a negator in the conditional, neither can we find any hint simply from the literal meaning of the protasis that it indeed sets the whole sentence in a CF situation.

The solutions to this problem in fact lead to a long controversy over the relationship between semantics and pragmatics, especially in the post-Gricean era. Linguists holding different opinions can be roughly classified into minimalists, contextualists and indexicalists.

Minimalists are advocators of semantic minimalism, who believe that sentences have a truth-conditional content largely independent of context. They hold that there is a very close correlation between the surface grammar of a sentence and the proposition one can use the sentence to express, which is a reflection of Gottlob Frege's Principle of Compositionality[56]. Minimalists also admit the existence of a limited number of context-sensitive expressions in language, whose semantic values are to be determined in different contexts of utterance, yet "pragmatically determined aspect of meaning is part of what is said if and only if its contextual determination is triggered by the grammar"(Recanati, 1993). Context-sensitive expressions include automatic indexicals, such as "I", "here", and "now", and other overtly context-sensitive expressions, like gradable adjectives "tall", "short", and "fast". For a sentence containing such expressions, the process of assigning values to context-sensitive expressions is called saturation[57], the purpose of which is to make complete the propositional meaning of the sentence. So, it is obvious that context only has a very limited impact on the content of a

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[56] Principle of Compositionality is a principle widely used in mathematics, philosophy and linguistics. It states that the meaning of a complex expression is determined by the meanings of its constituent expressions and the rules used to combine them.
[57] Saturation not only supplies contextual values for explicit indexical expressions such as pronouns and demonstratives, but also for "hidden" indexicals involved in the logical form of a sentence.

sentence.

The minimalist method in the analysis of CF reading generation is ingredient-determinism to some extent. In fact, what we have done in the previous two chapters follows the footsteps of minimalists. But the problem with CFCs is that their truth value is itself vague. Even if each and every context-sensitive expression is assigned referents, the meaning of CFCs cannot be grasped unless it is constructed against some context or background.

(4) If Lincoln had not gone to the theatre, he would not have been assassinated.

(5) If Lincoln had not gone to the theatre, he would have been assassinated anyway.

The above two seemingly contradictory CFCs can both be true, which strongly suggests that conditionals by themselves are not adequate in expressing meanings. CFCs are context-sensitive. According to Lewis, a CF $p \mathbin{\square\!\!\rightarrow} q$ is true just in case all of the p-worlds which are closest to the actual world are also q-worlds. So, the essential point is the judgments of overall similarity between possible worlds. In the context for (4), we can attach importance to similarities and differences on the insecure situation in Ford's Theatre and about the possibility that Ford's Theatre was the only place where the assassination could be carried out. In the context for (5), we can attach importance to similarities and differences on the determination of the well-known actor John Wilkes Booth, or the well-planned conspiracy to throw the Union government into disarray. Under the framework of semantic minimalism, since there is no expression in the protasis whose value has anything to do with the contexts provided just now, it is not possible that (4) and (5) can be regarded as true at the same time. Yet our language intuitions tell us they can.

Contextualism, on the other hand, denies the requirement of close correlation between the surface grammar of a sentence and the proposition one can use the sentence to say. Its advocators argue that sentences are all context-sensitive, and therefore the

linguistic meaning of a sentence does not fully represent a proposition. These semantically incomplete sentences by minimalists are simply "propositional radicals" (Bach, 1994). To determine the meaning of the sentence which is neither definite nor complete, the process of free enrichment is always required. It is so called because such enrichment can be carried out without the constraint of logical form. Take Sperber & Wilson's (1986) RT, a radical Contextualism theory, as an example. RT is regarded by many linguists, such as Cappelen & Lepore (2005), as radical, because they believe that the influence of context on propositional meanings is universal, which is contrary to the holders of moderate contextualism[58], who take the middle ground of not fully opposing minimalism or completely adopting radical contextualism. In RT, meaning is divided into explicature and implicature. Explicature is a "development" of the sentence's "logical form". In addition to linguistically encoded meaning, there is also pragmatically fleshed out explicit meaning, as well as pragmatically inferred implicit meaning. A key property of implicature is that it is fully distinct from and logically independent of what the speaker actually says. The following group of sentences can be used to illustrate the contrast between explicature and implicature:

(6) a. She wants a new one.

b. Daisy, your girlfriend, wants a new Dior bag.

c. You should buy her a new Dior bag.

(6b) is the explicature of (6a), while (6c) is the implicature of (6a).

Now, back to the discussion of CFCs. In part 6.1, Yan Jiang's analysis is classified as context-determinism as he adopted relevance theory. But he is not the only linguist who has made such an attempt. Smith and Smith (1988) is an earlier exploration of the application of RT to conditionals in English (including CFCs). Although these two

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[58] Famous linguists, such as Recanati (1989), Bach (1994) and Levnison (1995, 2000), are all advocators of moderate Contextualism.

papers have broken down the mechanism of CF generating into two kinds of functions, semantic function and pragmatic function, they have come to slightly different conclusions. Smith and Smith took *if*, the hypothetical conjunction, as the semantic input, and argue for its equivalence with material implicature. Then, based on the material implication analysis, the truth value of the protasis of the CFC can be evaluated against the context the hearer constructs in order to understand the sentence. The context could be "earlier discourse, encyclopedic knowledge or sense perception"(Smith & Smith, 1988). The protasis of a CFC always contradicts the assumption, and the syntactic form (or the use of *if*) of a conditional signals that the protasis is stronger than any assumptions in the context. So, when the protasis of a CFC is recognized, the contradictory negation of the protasis is erased from the memory of the deductive device of human brain.

The purpose of Smith and Smith's research is to work out one theoretical framework under which indicative and CFCs can both be explained. Therefore, they focus on the shared structure of *if*, the typical construction of both indicative and CFCs in English. However, Yan Jiang's primary purpose is to challenge Bloom's misconception on Chinese, and he puts more emphasis on CF ingredients, such as hypothetical conjunctions, aspect markers and negators. These ingredients encode procedural information, and the hearer can obtain both explicature and implicature once they are triggered.

Yet RT itself faces a lot of challenges. Especially when it is applied to CF sentences, some of the problems become more prominent. We still take (4) and (5) as examples. Contextualists believe that their theory perfectly explains the two CFCs which are seemingly unable to be included in the system of material implication. (4) is true if it is uttered in a context in which the speaker believes that Ford's Theatre was the only insecure place for Lincoln. And (5) could also be true if it is processed in the context that

the well-known actor John Wilkes Booth was determined to assassinate him. But we can not find any clue as to how these possible contexts can be derived. There is no linguistic form in the conditional protasis from which we can trace any information that might be related to the assumptions in the hearer's mind. This process of "free" enrichment plus the existence of the so called "unarticulated constituents" leads to the disconnections of "what it says" and "what it means".

Both minimalism and contextualism offer useful insights to the issue in discussion, yet none of them can provide a perfect solution. We need to find a third solution which can avoid both "the Scylla of Minimalism" and "the Charybdis of Contextualism" (Ostertag, 2008).

Although his idea of indexicalism had already appeared in some of his early papers, Stanley (2007) gave a systematic introduction to indexicalism in *Language in Context: Selected Essays,* and provided solutions to some interpretational puzzles, such as nominal restriction and quantifier domain restriction. Stanley believed that his theory can overcome the major weaknesses of both minimalism and contextualism. On the one hand, it breaks the limit of minimalism and advocates that the function of context is not merely to assign semantic values to the limited number of context-sensitive expressions. On the other hand, it insists that all contextual effects can be traced back to logical form, which differs greatly from the "unarticulated constituents" thesis of contextualism. The advantages of indexicalism over minimalism and contextualism will be discussed in the following analysis of CFCs.

According to indexicalism, all elements in the truth-conditional content of an utterance are linguistically controlled, because they result from fixing the values of elements in the logical form. The process that is involved in it is called saturation. We quote a simple sentence from Stanley (2007) to see how his theory works.

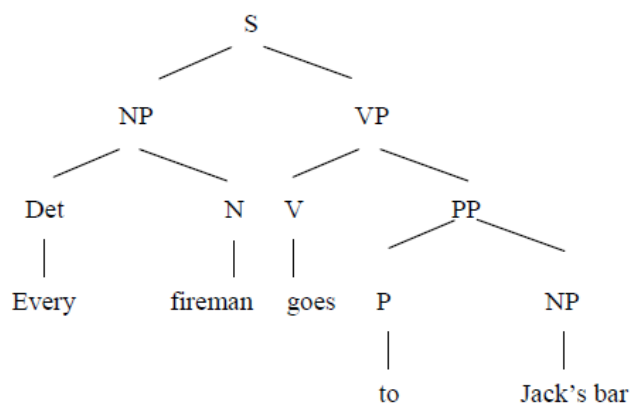(7) Every fireman goes to Jack's bar. (Stanley, 2007)
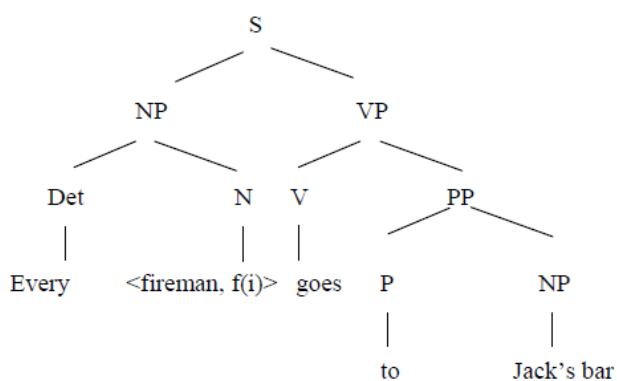
Figure 21

It can be represented by:

Figure 22

A hearer with normal linguistic intuitions is able to tell that if (7) is true, "every fireman" should not mean "every fireman on earth", but instead "every fireman" in a certain location. Analyzed in Stanley's notion, Figure 21 fully reflects the linguistic intuitions and at the same time can be developed into the linguistic form of Figure 22. The value of "i" is a location provided by the context (i.e. Kowloon, HKSAR), and the value of "f" is a function from locations to sets of things in these locations. When "Kowloon, HKSAR" is applied to the function, we get the set of objects occupying Kowloon. Finally this set intersects with the set of firemen and we get the desired interpretation of the sentence, which is:

(8) Every fireman (in Kowloon, HKSAR) goes to Jack's bar.

Through the above brief comparison and contrast among the three semantic theories,

it is fair to say that all of them have both advantages which we can make use of, and disadvantages that we need to abandon. As we will explain later, since CFC is such a complicated and comprehensive phenomenon, the suitability of each is only restricted to a certain level.

6.3 A Three-Layer Context System

In this part, a framework will be sketched out. The discussions presented in the previous chapters of this dissertation, together with the former studies by other linguists, make us reach the conclusion that CF ingredients, as well as the relevant information provided in the utterance, play an important role in the framework. Based on the possible worlds semantic theory, it is widely accepted that the protasis and the apodosis of a CFC are not of equal status and play different roles in the interpretation of the conditional. The relationship between them will also be attached importance to.

Therefore, our hypothesis is that CF interpretation involves three major elements: CF ingredients, relevant information provided by the utterance and the relationship between protasis and apodosis. These three elements interact with each other and each of them makes unique contributions to the overall interpreting process. Since they are what speakers and hearers rely on in constructing and interpreting the meaning of utterances, they are all regarded here as contexts, but of different types.

In the parts that follow, we will give introduction to each context involved in CF interpreting and examine the ways they interact with each other to enact a chain of inferences.

6.3.1 CF Ingredients: Local Context

Local context is formed when one or several of the CF ingredients are applied to a conditional sentence. It is called local, because these expressions are part of a

conditional sentence, and thus located locally. In addition, their influence does not go beyond the clause in which they are and therefore they function locally.

Unlike the seemingly complicated manifestations, which are trivial and scattered in grammatical or lexical realizations, CF ingredients are taken as falling into two categories, those which contribute to factual meaning and those which contribute to negative meaning. This classification, as will be discussed below, will facilitate the further discussion of local context.

6.3.1.1 CF Ingredients Revisited

The reason that some linguists doubted about the existence of fixed expressions for CF meaning is that these forms are difficult to identify and even if they are identified, they are usually assorted and unclear. Although most of the CF ingredients have not yet undergone the process of grammaticalization or lexicalization, contrary to the typical CF conjunction *yaobushi*(要不是), it is still possible to create a brief classification for them. According to the analyses in Chapter 4 and Chapter 5, there are six different kinds of ingredients.

a. Temporal Expressions

A Chinese CFC, or its protasis proposition to be more precise, is always set at a definite temporal point in the past, which is intentionally disconnected from the present time. For this purpose, the expressions in this kind include temporal nouns and temporal adverbs indicating past time, temporal adverb *zao*(早)and verbal *le*(了)which can anchor situation in the past. In short, temporal expressions in this category are used in CFCs to highlight the mock-realis[59] mood in the protasis.

b. Hypothetical Conjunctions

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[59] They are mock-realis because they are realis in form, but irrealis in mood/meaning and with a presupposed irrealis meaning.

Our analysis of the frequently used hypothetical conjunctions in CFCs of Mandarin Chinese reveals that only *yaobushi*(要不是) and compound conjunctions of the form "hypothetical conjunction + negator" unexceptionally leads to CF reading. But it does not mean that other hypothetical (except *wany*(萬一)) conjunctions do not make any contribution to a CFC. In fact, hypothetical meaning is an integral part of counterfactuality, which is directly expressed through hypothetical conjunction. An important feature of the conjunctions in this category is that it must be followed by an event of situation which happens in reality or is believed by the speaker as having happened, or is happening at the time when the utterance is made.

c. Negators

Negators which are usually used in CFCs include *mei*(沒), *meiyou*(沒有) and *bushi*(不是). The purpose of using negator in the protasis of a CFC is to depict an imaginary situation or event which is contrary to reality.

d. CF Enhancers

CF enhancers refer to those expressions without which the conditional is still grammatically sound, but its CF reading would become weaker. They include *zhende*(真 的), *hai*(還), *zai*(再), *xie*(些) and sentential *le*(了). They appear to be assorted, but share something in common. *Zhende*(真的) emphasizes the existence of a state or an event that has already happened. *Hai*(還) means "still", which indicates the continuation of a state that has already existed. *Zai*(再) is used when the speaker wants to state the continuity of an action or augmentation of a state. It implies a past state or a past reality, a common point shared with *xie*(些). We believe that the above enhancers can all be used in CFCs to express mock-realis mood.

e. Personal Pronouns

There is a tendency that when the subject of the protasis are first person pronouns such as *wo*(我) and *women*(我們), the conditional is more likely to be interpreted as CF,

in contrast to those with second and third person pronouns as subject. The reason is that the speaker should have better knowledge about himself than any of the others, and therefore ingredients of this kind also create a mock-realis situation.

f.   Rhetorical Question

When a rhetorical question appears in the apodosis, the conditional sentence is more likely to have CF reading if the protasis contains a past event or situation. Rhetorical questions, instead of seeking replies from listeners, express speakers' belief, and are thus regarded as a mock-realis operator.

Inspired by Su's (2008) claim that *yaobushi*(要不是) clauses contain a factual component, we wish to propose that CF ingredients can be divided into three kinds — those that are used to express factual (mock-realis) meaning, serving as factual component, those that are used to express negation, serving as negative operator, and those that express hypothetical meaning.

We can now list the above ingredients into the following form:

Hypothetical Components	Factual Components	Negative Components
➢ Hypothetical Conjunctions (except *wanyi*(萬一))	➢ Temporal Expressions ➢ CF enhancers ➢ Personal Pronouns ➢ Rhetorical Question	➢ Negators

Table 16

According to the position an ingredient can occupy in a CFC, they can also be classified into:

Protasis	Apodosis
➢ Temporal Expressions ➢ Personal Pronouns ➢ Hypothetical Conjunctions (except wanyi(萬一)) ➢ CF Enhancers ➢ Negators	➢ Rhetorical Question ➢ Sentential *le*(了) ➢ Negators

Table 17

Table 17 will be expounded in more detail because the conclusion drawn here will be a prerequisite for the investigation of the second layer of context.

From the examples that have been quoted so far in this dissertation, most of the CF ingredients appear in the protasis. Moreover, it is believed that those which appear in the apodosis are not of equal importance compared with those in the protasis. The three types listed in the above diagram, namely rhetorical question, sentential *le*(了)and negators, are "inferior" to, or subordinated to the ingredients contained in the protasis in that whether their CF-related meaning is shown depends solely on the interpretation of the protasis.

(9) 如果辛薇萊明天當選了市長，趙幗還敢欺負她嗎？

Ruguo　Xin Weilai　mingtian　dangxuan　le　　shizhang,　Zhao Guo

if　　　Xin Weilai　tomorrow　elect　　　LE　　mayor　　　Zhao Guo

hai　　gan　　qifu　　ta　　ma?

still　dare　bully　3S　　PRT

If Xin Weilai is elected mayor tomorrow, will Zhao Guo still dare to bully her?

(10)　如果辛薇萊是市長，趙幗還敢欺負她嗎？

Ruguo　Xin Weilai　shi　shizhang,　Zhao Guo　hai　　gan　　qifu

if　　　Xin Weilai　be　　mayor　　　Zhao Guo　still　dare　bully

ta　　ma?

3S   PRT

If Xin Weilai were the mayor, dare Zhao Guo bully her?

The same rhetorical question is attached to the two conditional, with (9) interpreted in a factual way, while (10) interpreted in a CF way. So, the function of it is to reinforce the effect of the CF interpretation under the condition that CF reading already exists in the protasis.

(11)   如果辛薇萊明天的比賽表現好一點,趙幗就輸給她了。

Ruguo   Xin Weilai   mingtian   de   bisai   biaoxian   hao

if   Xin Weilai   tomorrow   DE   competition   perform   good

yi-dian,   Zhao Guo   jiu   shu   gei   ta   le.

one-bit   Zhao Guo   then   defeat   to   3S   PRT

If Xin Weilai performs better in the competition tomorrow, she will definitely defeat Zhao Guo.

(12)   如果之前的比賽辛薇萊表現得更好一點,趙幗就輸給她了。

Ruguo   zhi-qian   de   bisai   Xin Weilai   biaoxian   de

if   ZHI-before   DE   competition   Xin Weilai   perform   DE

geng-hao   yi-dian,   Zhao Guo   jiu   shu   gei   ta   le.

more-good   one-bit   Zhao Guo   then   defeat   to   3S   PRT

If Xin Weilai had had better performance in the previous competitions, she would have defeated Zhao Guo.

Both (11) and (12) are grammatically sound and read natural. The different uses of *le*(了)in them lie in that in a factual conditional like (11), *le*(了) is used to confirm and emphasize the statement made by the speaker, while in a CFC like (12), it activates an attitudinal boundary[60].

(13)   沒有共產黨就沒有新中國。

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[60] For a detailed explanation of "attitudinal boundary", see 4.1.4.

Meiyou   gongchan   dang   jiu   meiyou   xin   zhongguo.

NEG   Communist Party   then   NEG   new   China

Without the Communist Party, there would be no new China.

(14) 有周全的計畫就沒有後顧之憂。

You   zhouquan   de   jihua   jiu   meiyou   hou-gu-zhi-you.

have   comprehensive DE   plan   then   NEG   after-fear-ZHI-trouble

With a comprehensive plan, there will never be fear of disturbance in the

rear.

Whether the negator in the apodosis is interpreted in a CF way, like in (13), or an indicative way, like in (14), all depends on the protasis.

Through the above examples, it can be concluded that the ingredients in the apodosis are dominated by those in the protasis. That is why we need to restrict the CF ingredients to those which occupy positions in the protasis. The inequality of contributions made by the two clauses of a conditional sentence has not been studied much in the previous literature. But some clue can be found in a recent PhD dissertation by Chunhui Wang (2009). In his examination of the ordering patterns of clauses in conditional complex sentence in Chinese, the dominant ordering pattern of conditional clause (protasis) preceding the adverbial clause (apodosis) is attributed to two reasons: contrastive nature and hypothetical nature of the conditional clause. Contrastive nature, or contrastivity has nothing to do with the concept of contrastive focus used in discourse analysis. It is used in a broad sense and is represented when a replacement of a possible world is selected. Contrastive nature is based on the hypothetical nature, which refers to the selection of a possible world out of two or more possible worlds. To apply his arguments to our finding, we propose that the use of CF ingredients in the protasis, instead of in the apodosis, is for disambiguation, so that a CFC will not be interpreted as a factual conditional.

Another finding we have made concerns the representations of counterfactuality in conditional sentences from the perspective of the realis/irrealis distinction. Based on the definition of CFCs, together with our classification of the CF ingredients, the CF protasis should include expressions conveying factual and/or negative meanings. This is the basis of the CF meaning. Since the apodosis describes how the world *would have been* if the protasis had obtained, it naturally contains irrealis mood.

Jespersen (1948), while carrying out his study on CFCs in English, only regards Be-verb-type as the real CFCs, because for other types, counterfactuality is achieved by back shifting. For example, the present subjunctive uses its simple past tense form:

(15)   If they were here, they would help you.

Or, the past subjunctive uses its perfect aspect form, like in:

(16)   If she had worked harder, she would have succeeded.

According to Bugenhagen's (1994) observation, in Sursurunga, a language spoken in Papua New Guinea, the protasis of all the CFCs are marked with realis features:

(17)   Sursurunga

ngo	á-k-te	han	balbal	ux	i
if	3SG.RLS-DEF-EMPH	go	again.RED	blow	SBJ

ráin
rain

na	han	kopkom	kuluk	á	namnam
3SG.IRR	go	grow	good	SBJ	food

If it had kept on raining regularly, the crops would have grown well.

The protasis is marked with the realis prefix *á-*, while the apodosis has the irrealis morpheme *na*.

The same conclusion can also be drawn for Chinese. In the protasis of a CFC, there are:

- salient past-tense markers;

- CF enhancers, such as *zai*（再）*, xie*（些）*, hai*（還）*, zao*（早）, which can be used to trigger the relationship between the possible world portrayed by the protasis and the actual world;

- *bushi*（不是）*, mei*（沒） as preferred negators.

Therefore, it is argued that the protasis of a CFC also demonstrates mock-realis features.

There is no doubt that CFCs are categorized as irrealis (Chung and Timberlake 1985, Mithun 1999). In fact, it is the most typical kind of irrealis form. The discrepancy between the local presentation by irrealis means and the global property of irrealis lies in that the irrealis marker (i.e. hypothetical conjunction) takes a wider scope than the realis markers.

Compared with CFCs, the protasis of hypothetical conditionals represents irrealis features. Therefore, when the components in the protasis are absent or not salient enough, ambiguity will arise. The two examples quoted from Yan Jiang (2000) can illustrate this point.

(18) 要是有電，燈就亮了。

   Yaoshi you   dian,   deng   jiu   liang   le.

   if   have electricity light then   bright PRT

   If there had been electricity, the light would have been on. (CF hypothesis)

(19) 要是有電，燈就會亮。

   Yaoshi you   dian,   deng   jiu   hui   liang.

   if   have electricity light then   will   bright

   If there is electricity, the light will be on. (possible hypothesis)

The same protasis implies different hypotheses. Without an explicit temporal expression, both interpretations will make sense.

Chung & Timberlake (1985) said that there is only one way to make an event become realis, but numerous ways to make it irrealis. The complexity of the CFC is caused by the partial mock realis representation combined with the overall irrealis interpretation.

6.3.1.2 Numbers Talk

In order to construct a framework where CF ingredients constitute the local context, evidence needs to be provided to prove that certain ingredients or ingredient combination alone can lead to CF reading without the aid of discourse context. A questionnaire survey was thus carried out to support this point.

In the previous studies, surveys and questionnaires were conducted to provide evidence for different linguists' hypotheses (Bloom, 1981, Hsin-feng Wu 1994, Feng & Yi 2006). The design of the questionnaire for this dissertation is based on the previous ones, but differs from them in a couple of ways. *First*, they focused on different research goals. Although Bloom (1981) and Hsin-feng Wu (1994) held opposite opinions, their surveys were both designed to compare Chinese speakers' ability to think counterfactually with that of English speakers'. Feng & Yi (2006), unlike Bloom and Hsin-feng Wu, emphasized more on the use of "certain linguistic forms to express CF meaning" (referred to as "CF ingredients" in this dissertation). *Second*, research objects. The participants in all of the above studies consisted of both English speakers and Chinese speakers. Bloom tested people from all walks of life in Taiwan and Hong Kong; Hsin-feng Wu mainly took college students in HK, Taiwan and the mainland, and Feng & Yi selected mainland college students as the representative of Chinese speakers. *Third*, question composition. Bloom's questionnaires solely contained passage reading comprehension with multiple choice questions. Since he is a native speaker of English,

the Chinese version of the stories was translated from English[61]. Unlike Bloom, Hsin-feng Wu adopted both passage reading comprehension and sentence reading comprehensions questions. To prove that Bloom′s conclusion does not reflect the linguistic reality, she revised his Chinese version. As to Feng & Yi′s questionnaire design, reference can be made to 3.2.1.

Since the focus of our study is not the psychological process of CF reading, but the validity of CF ingredients, patterns of questions were modified to meet the present purpose. The composition of the questionnaire (see Appendix IV) involves both sentence reading and passage reading with the former accounting for around eighty percent of the total. Most of these sentences contain one or two CF ingredients that have been discussed in Chapter 4 and Chapter 5. Those which do not contain any relevant expressions and forms serve as disturbances. Sentences have been intentionally arranged in a random order so that the respondents cannot get a clue as to the inner connection between these sentences. In order to compare the influence of discourse context to the judgment of CF reading with that of the CF ingredients, two passages, namely ″Bier Story in Chinese″ and ″Human Broth″ were borrowed from Hsin-feng Wu(1994) and CF ingredients were add to the Human Broth story.

The survey was conducted on the mainland, because we are concerned about the CFCs in Mandarin Chinese. In Hong Kong and Taiwan, since Cantonese and Guoyu (Chinese used in Taiwan) are working languages respectively, the Chinese used in these two places have been greatly influence by the local dialect and therefore cannot meet our demand. Unlike the previous studies in which participants were college students, the respondents of our survey were all first grade senior high students. They have already had very good command of their native language. Meanwhile they were not yet affected

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[61] But the translation was later criticized by some of the other linguists, such as Hsin-feng Wu, as not fluent and authentic, and therefore influenced the judgment of the respondents.

by the grammatical knowledge of subjunctive mood in English, because English subjunctive mood is taught in grade two.

There had been no instructions given to the respondents before the survey was carried out concerning the purpose of this questionnaire and the grammatical knowledge concerned[62]. The students were only informed that it was a questionnaire on reading comprehension and participants were suggested to answer the questions according to their language intuitions.

The statistics collected from the result of the survey have been analyzed and some of the facts are worthy of our attention.

First, the design of the questionnaire intended to cover as many as possible the CF ingredients discussed in this dissertation.

CF Ingredients		Number of Questions (n)	Average Percentage of CF Responses[63] (p)
Temporal expressions	Temporal adverb *zao*(早)	1	98.1%
	Phase (state verbs in CF)	2	94.3%
	Aspect (perfective vs. imperfective)	2	88.7%
	Aspect Marker *le*(了)	4	81.2%
	Temporal nouns indicating past tense *zuotian*(昨天)	1	100%

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[62] Hsin-feng Wu (1994) indicated clearly in her instruction sheet that the participants should look for "expressions which convey a contrary-to-fact meaning", which we think would give hint to the participants and affect the final result.

[63] Non-reading-comprehension questions are not counted in the percentage, since they do not directly reveal the relationship between ingredients and counterfactual reading.

	Temporal nouns indicating future tense*[64]	1	89%
	Tense juxtaposition	3	91.83%
Negation		4	96.87%
Conjunctions		3	87.43%
CF Enhancers (such as *zhende*(真的) and *zai*(再))		3	88.03%
Personal Pronouns		3	12.5%
Rhetorical Question + past tense protasis		2	96.2%
Discourse Context*[65]		4	92.92%

Table 18

In Table 18, except personal pronouns, where only 12.5% of the respondents believe that first person pronoun is more likely to lead to CF reading than the third person, the remaining CF ingredients are highly liable (>80%) to lead to CF reading of a Chinese conditional. These statistics support our hypothesis that even without discourse context being provided, certain expressions and lexical forms can be solely responsible for CF reading.

Second, in the sentence comprehension section of this questionnaire, three different patterns of questions are adopted:

Question Patterns	Number of Questions
Paraphrasing question	28
Ordering questions	4
Matching questions	2

Table 19

Although the focus of this questionnaire is not on the relationship between the protasis and the apodosis in conditional sentences, unexpected findings were made. The

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[64] This item does not belong to the CF ingredient category. It is for the purpose of contrastive study only.
[65] This item does not belong to the CF ingredient category. It is for the purpose of contrastive study only.

matching questions were originally introduced to test the possibility of a state verb appearing in a CF protasis, as in (20) and (21):

(20) 如果他十五歲，_____。

將上面的句子補充完整，橫線上可以填入的是：

a. 他就應該上高一。(n=29/p=54.7%)

b. 他早就該上高一了。(n=2/p=3.8%)

c. 上述兩個選項皆可。(n=11/p=20.8%)

d. 上述兩個選項均不合適。(n=11/p=20.8%)

(21) 要是有電，_____。

將上面的句子補充完整，橫線上可以填入的是：

a. 燈就亮了。(n=4/p=7.5%)

b. 燈就會亮。(n=12/p=22.6%)

c. 上述兩個選項皆可。(n=35/p=66%)

d. 上述兩個選項均不合適。(n=2/p=3.8%)

Theoretically, the above two protasiss can be followed by apodosiss with and without the sentential *le*(了) and form factual and CF readings respectively. But the data we collected, as specified after each choice, do not provide full support to our hypothesis, especially in (20). Further, very few respondents (3.8% and 7.5%) would regard the protasis as the protasis for a CFC, which is in contrast to the fact that it can be. A possible explanation for this is that the protasis plays a more important role in determining the reading of a conditional sentence. When there is no obvious CF ingredient included in the protasis, readers tend to take it as a factual conditional. This echoes the conclusion we have drawn about the unequal role that the two clauses play in a CFC.

6.3.1.3 Working Mechanism

This section focuses on how the CF ingredients work to form a local context. The contributions they make are mainly semantic ones, because on this level, the above mentioned lexical expressions and syntactic structures are applied to meet the semantic requirement of a CFC. Just as our previous discussions reveal, the interpretation of these ingredients are all based on their literal meaning respectively and are non-context sensitive.

The working mechanism of the first layer of context is in fact the functioning of the CF ingredients. So far, we have only examined the individual operation of ingredients, without yet mentioning the effects of ingredient combo. In fact, it is more common to see such conditionals with multiple ingredients than those with a single one.

To draw a comprehensive picture, we will try to work out a couple of principles with can describe the functioning of the ingredients in a more concrete way. Our ideal model of a CFC in Chinese is abstracted from the most typical examples as follows, because they are the ones of which people have least difference in interpretation.

(22) <u>要不是</u>總理幾次提到你，我今天不會對你那麼客氣。

Yaobushi zongli ji-ci tidao ni, wo jintian bu hui

if NEG premier several-time mention 2S 1S today NEG will

dui ni name keqi.

to 2S so kind

If it had not been that the Premier mentioned you several times, I would not have been so kind to you today.

(23) <u>要不是</u>海琳想過平凡的日子，泰坪是不會結束他的演藝生涯的。

Yaobushi Hailing xiang guo pingfan de rizi, Taiping shi

if		Hailing	want	live	ordinary	DE	life	Taiping	be

bu	hui	jieshu	ta	de	yanyi	shengya	de.

NEG	will	end	3S	DE	performing	career	PRT

If it had not been Hailing who wanted to live an ordinary life, Taiping would

not have ended his performing career.

(24) 如果不是在網上的留言板上讀到，我不知道有人那樣想。

Ruguo	*bushi*	zai	wang-shang	de	liuyanban	shang	dudao,
if	NEG	in	internet-on	DE	bbs	on	read

wo	bu	zhidao	youren	na-yang	xiang.
1S	NEG	know	someone	that-way	think

If it had not been what I had read from the BBS on the internet, I would not

have known that someone would have thought about it in that way.

(25) 如果不是尼羅河從北向南貫穿它的全境，埃及早就成了寸草不生的沙漠
了。

Ruguo	*bushi*	niluo-he	cong	bei	xiang	nan	guanchuan	ta
if	NEG	Neil-River	from	north	to	south	cross	3S

de	quan-jing,	Aiji	zao	jiu	cheng	le
DE	entire-territory	Egypt	already	then	become	LE

cun-cao-bu-sheng	de	shamo	le.
inch-grass-NEG-grow	DE	desert	PRT

If the Neil River did not run though its entire territory, Egypt would already

have become a sterile desert. (CCL Corpus)

(26) (如果)沒有政府在農業上的好政策，就沒有農民的好日子。

(Ruguo)	*meiyou*	zhengfu	zai	nongye	shang	de	hao
(if)	NEG	government	zai	agriculture	up	DE	wise

zhengce,	jiu	meiyou	nongmin	de	hao	rizi.
policy	then	NEG	farmer	DE	prosperous	life

  Without the government's wise policy on agriculture, the farmers would not

  have had a prosperous life.

(27) <u>(如果)沒有</u>老師的教誨就沒有我的成績。

(Ruguo)	*meiyou*	laoshi	de	jiaohui	jiu	meiyou	wo	de
if	NEG	teacher	DE	instruction	then	NEG	1S	DE

chengji.

achievement

  Without the teacher's instruction, I would not have made such achievements.

Sentences like (22) and (23) are introduced by the CF conjunction: *yaobushi* (要不是). It contains a hypothetical component *yao*(要), a factual component *shi*(是) and a negative component *bu*(不). In like manner, the compound conjunctions of the form "hypothetical conjunction + *bushi*(不是)" also have the same effect on the reading of conditional sentences, such as (24) and (25). Moreover, when the protasis only contains a noun phrase, the negation on the noun phrase can also lead to counterfactuality. The more complicated and specific the noun phrase is, the more likely that it refers to an existing object or situation, and therefore the stronger the CF reading will be.

Summarizing the examples above, the features of an ideal CFC in Chinese can be described by Principle One.

Principle One:

An ideal CFC semantically requires that it contains at least one hypothetical component (Hp), one factual component (Fc) and one negative component (Ng), with negation having scope over factual ingredient and they both fall into the scope of the hypothetical conjunction.

The protasis can thus be formalized as follows:

$$CF_{protasis}=Hp(Ng(Fc(p)))$$

Some explanations need to be made.

First, although the three specific components correspond to the three types of ingredients listed in Table 16, every lexical expression is not of equal status. As has been discussed in the previous two chapters, hypothetical conjunctions such as *yaobushi*(要不是)are stronger than others. Likewise, negators such as *bushi*(不是)+ clause, or *meiyou* (沒有)+ noun phrase are more likely to lead to lead to CF reading than other negators. The same is true with factual components. Factual components mainly consist of expressions concerning time. Among tense, aspect and phase, only the first one conveys the information of the sequence of events along the time axis, so the other two need to work with tense to express CF meaning. Aspect or phase alone may lead to both readings.

(28)　如果他來了香港，就會來拜訪你。

Ruguo　ta　　lai　　le　　xianggang,　　jiu　hui　lai

if　　　3S　　come　LE　　Hong Kong　　then　will　come

baifang　ni.

visit　　2S

If he comes to Hong Kong, he will pay you a visit.

(29)　如果他昨天來了香港，今天就會來拜訪你了。

Ruguo　ta　　zuotian　　lai　　le　　xianggang,　　jintian　jiu　hui

if　　　3S　　yesterday　come　LE　　Hong Kong　　today　　then　will

lai　　　baifang　ni.

come　　visit　　2S

If he had come to Hong Kong yesterday, he would pay you a visit today.

The above two sentences have different interpretation, because although (28) contains a factual component *le*(了)，an aspect marker, due to the lack of temporal

anchoring (i.e. past, present or future), its tendency to counterfactuality has been seriously weakened.

CF enhancers, such as *zao*(早), (*geng*(更)…*xie*(些)are also strong CF ingredients.

(30) 如果有關部門<u>早</u>一兩個月就通報疫情，那麼死亡人數就不會超過一百了。

Ruguo	youguan	bumen	*zao*	yiliang-ge	yue	jiu
if	relevant	authority	already	one or two-CL	month	then

tongbao	yiqing,		name	siwang	renshu	jiu	bu	hui
report	epidemic disease		then	death	toll	then	NEG	will

chaoguo	yibai		le.
exceed	one hundred		PRT

If the relevant authority had released the report on the epidemic disease one or two months earlier, the death toll would not have exceeded one hundred.

(31) 如果蘋果手機的性價比<u>更</u>高<u>一些</u>，就會有更多人使用了。

Ruguo	pingguoshouji	de	xingjiabi		*geng*	gao	*yixie*,
if	Apple iphone	DE	performance-price ratio		more	high	a bit

jiu	hui	you	gengduo	ren	shiyong	le.
then	will	have	more	people	use	PRT

If the performance-price ratio of Apple iphone were higher, there would be more people using it.

Even without indicating in (30) and (31) a specific tense by adding a temporal noun phrase, they are still qualified CFCs, because both *zao*（早） and comparative structure such as (*geng*(更)) ... *xie*(些)imply a fact or past event which is contrary to the proposition of the protasis—for (30), the report of epidemic situation was not released earlier, and for (31), the performance-price ratio is not high enough.

CF ingredients can now be reorganized according to its ability to lead to CF

reading:

Hypothetical Components	Hypothetical Conjunctions	*-yaobushi* (要不是) /hypothetical conjunction + *bushi* (不是)	>	*-ruguo* (如果), *yaoshi* (要是), etc.
Factual Components	Redundant Elements	*zao* (早) (*geng* (更)) … xie (些)		
	Temporal Expressions	Tense markers	-Aspect markers -Phase	
	Personal Pronouns	First person > Second person > Third person		
Negative Components	Negators	*bushi* (不是) +clause / *meiyou* (沒有) + noun phrase > *-mei* (没) > *-bu* (不)		

Table 20

Second, scope relation among the three components is also worthy of our attention. Hypothetical component will have scope over the other two, due to the grammatical category of the sentence as a conditional. Yet on many occasions, instead of using the three types of typical CF constructions, we see a conditional containing three components, but not necessarily negator preceding the factual component. In such cases, CF reading is still accessible, but not as sure as those under principle one.

Principle Two

If a negator, other than clausal negators *bushi*(不是) or *meiyou*(沒有), is used in the protasis of a conditional sentence, factual components are needed to reinforce its CF reading.

(32) 如果泰坪當時不拒絕海琳的幫助，他現在或許可以走出困境。

Ruoguo	Taiping	dangshi	*bu*	jujue	Hailing	de	bangzhu,	ta
if	Taiping	then	NEG	refuse	Hailing	DE	help	3S

xianzai	huoxu	keyi	zouchu	kunjing.
now	maybe	can	overcome	difficulty

If Taiping had not refused the help from Hailing, maybe he could have overcome difficulty. (CF reading)

(33) 如果泰坪<u>不</u>拒絕海琳的幫助，他現在或許可以走出困境。

Ruoguo	Taiping	*bu*	jujue	Hailing	de	bangzhu,	ta	xianzai
if	Taiping	NEG	refuse	Hailing	DE	help	3S	now

huoxu	keyi	zouchu	kunjing.
maybe	can	overcome	difficulty

If Taiping did not refuse the help from Hailing, maybe he could the difficulty. (Indicative reading)

Because of the use of *dangshi*(當時), the CF reading of (32) can be guaranteed, which is in contrast to (33), where the temporal indicator is missed and CF reading cannot be obtained.

It also happens sometimes that only factual ingredients appear in the protasis, such as:

(34) 如果有關部門<u>上個月</u>就通報疫情，那麼死亡人數就不會超過100了。

Ruguo	youguan	bumen	*shang'ge*	*yue*	jiu	tongbao
if	relevant	authority	last	month	then	report

yiqing,		name	siwang	renshu	jiu	bu	hui
epidemic disease		then	death	toll	then	NEG	will

chaoguo	yibai	le.
exceed	one hundred	PRT

If the relevant authority had released the report on the epidemic disease last month, the death toll would not have exceeded one hundred.

(35) 如果<u>剛才</u>油罐爆炸了，一定會傷到路人。

Ruguo	*gangcai*	youguan	baozha	le,	yiding	hui	shangdao

If   Just now   oil tank   explode   LE   surely   will   injure

luren.

passengers

If the oil tank had exploded just now, the passengers would surely have been

injured.

<div align="right">(CCL Corpus)</div>

Although negative component is missing, CF reading can still be generated. We claim that the reason lies in the joint effect of hypothetical conjunction plus mock-factual meaning [66]. The semantic requirement of hypothetical conjunctions demands that it cannot introduce a clause containing a proposition describing a fact or a past event:

(36) a. 如果當年泰坪照惠喬的話做了，就沒有他今天的發展。

Ruguo   dangnian   Taiping   zhao   Huiqiao   de   hua

if   during that time Taiping   follow Huiqiao   DE   word

zuo   le,   jiu   meiyou   ta   jintian   de   fazhan.

do   LE   then   NEG   3S   today   DE   achievement

If Taiping had followed Huiqiao's words during that time, he would not have made today's achievements.

b. *如果當年泰坪照惠喬的話做了，今天他就沒有發展。

Ruguo   dangnian   Taiping   zhao   Huiqiao   de   hua

if   during that time Taiping   follow Huiqiao   DE   word

zuo   le,   jintian   ta   jiu   meiyou   fazhan.

do   LE   today   3S   then   NEG   achievement

*If Taiping had followed Huiqiao's words during that time, he would not

---

have made today's achievements.

c. 因為當年泰坪照惠喬的話做了，所以今天他才沒有發展。

Yinwei	dangnian	Taiping	zhao	Huiqiao	de	hua
because	during that time	Taiping	follow	Huiqiao	DE	word

zuo	le,	suoyi	jintian	ta	cai	meiyou	fazhan.
do	LE	so	today	3S	CAI	NEG	achievement

Because Taiping followed Huiqiao's words during that time, he has not made any achievements today.

There is a conflict in the meaning to be expressed when a past event ("Taiping followed Huiqiao's words") is led by *ruguo*(如果), as in (36b). In this circumstance, the conjunction should be replaced by *yinwei*(因為), as in (36c). But there is one exception:

(37)   如果愛情是一座樂園，那麼幸福就是摩天輪。

Ruguo	aiqing	shi	yi-zuo	leyuan,	name	xingfu
if	love	be	one-CL	amusement park	then	happiness

jiu	shi	motianlun.
then	be	Ferris Wheel

If love is an amusement park, then happiness is the Ferris wheel. (Internet)

When both the protasis and the apodosis of a *ruguo*(如果) conditional indicate a specific time with strict contrastive meaning, the conditional does not express hypothetical meaning any more. Like in (37), the protasis corresponds to the past reality, while the apodosis describes the present situation.

This seemingly contradictory combination of conjunction and mock-factual meaning conveys meanings which are beyond the standing linguistic meaning of each word in the protasis. According to RT (Sperber & Wilson, 1986), "Every act of ostensive communication communicates the presumption of its own optimal relevance". From the

speaker's perspective, to use a ready-made linguistic structure of hypothetical conjunction is the way with least mental effort and most efficiency to express counterfactuality, and so the signal he gives out is also the simplest. From the hearer's perspective, the maximum contextual effects of receiving such a conditional sentence are not to learn about a past event or a current situation. Instead, he first takes it as an ordinary hypothetical sentence, and when self-contradictory meaning is obtained, further mental processing is required to infer from the protasis that the protasis in fact describes the contrary-to-fact situation. Thus, the hearer's mental efforts are rewarded and the speaker's purpose is achieved.

When there are only negative factors, we have to rely on the following hierarchy to judge the possibility of CF meaning:

<p style="text-align:center">"bushi(不是)>*mei(you)*(沒(有))>*bu*(不)"</p>

A detailed discussion of negation has already been presented in 5.2.

<u>Principle Three</u>

When there is either factual component or negative component contained in a CFC, CF reading can also be obtained, but not as strong as when both components appear in the same clause.

As has been claimed at the very beginning of this section, CF ingredients have local effects only. They either lead to negative meaning or mock-factual meaning, and hence a first step toward CF interpretation. These expressions need to be combined with hypothetical conjunctions to set a context for the protasis. But how can a CFC be processed if it is without any ingredient? This question will be solved later in this chapter.

The forming process of the local context can be described in the diagram below:
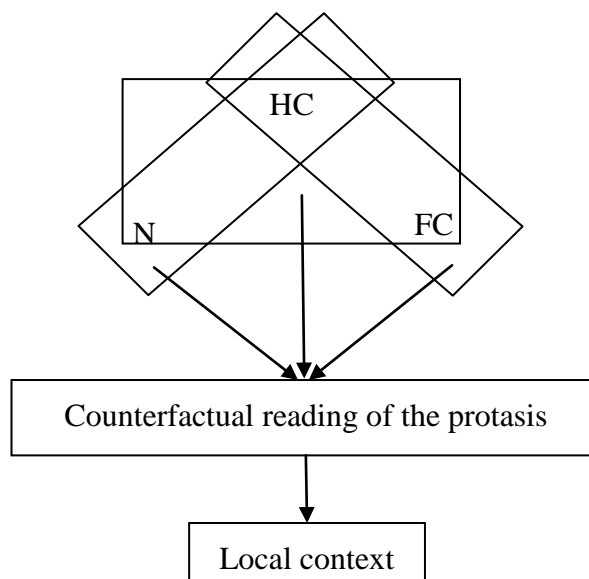
Figure 23

6.3.2 Protasis and Apodosis: Compound Sentence Context

The second layer of context is what we call compound sentence context, which refers to the interpretation of the protasis and the apodosis. Through the examination of individual CF ingredients, we have claimed that it is the CF ingredients in the protasis, rather than those in the apodosis, that play a dominant role in deciding the reading of a conditional sentence. The function of the ingredients in the apodosis is mainly to emphasize. When the negative meaning and/or mock-factual meaning is triggered (in the protasis), the next step is to interpret the whole conditional. Following Stanley's (2002) indexicalism, it is a process of incorporating extra-linguistic context, linguistic meaning and grammatical structure.

6.3.2.1 Binding Argument

The Argument for Binding constitutes a very important part in Jason Stanley's theory of Indexicalism. Stanley's way of proving his theory is to show that a natural reading of a construction utterances which involve unarticulated constituents require

recognizing that "a variable exists in the syntactic structure of the relevant construction, whose value, relative to a context, is the allegedly unarticulated constituent"(Stanley, 2007). To put it simple, it is to prove syntactic binding (the existence of the unarticulated constituent in the logical form) through semantic binding (the reading of a sentence). Semantic binding, according to Stanley, can be stated as follows:

> *If α and β are within the same clause, and α semantically binds β, then either α is, or introduces, a variable-binding operator which is co-indexed with, and stands in a certain specified structural relation to, a variable which is either identical to, or is a constituent of, β.*

<div align="right">(Stanley, 2007)</div>

That is to say, all truth-conditional effects of extra-linguistic context can be traced back to logical form. With this assumption in mind, it is possible to argue that there are no convincing examples for the so-called "unarticulated constituents". Stanley discussed quite a number of examples in his "Context and Local Form", including covert temporal variable, comparative adjectives and quantifier expressions. The application of binding argument to the explanation of the above linguistic expressions will shed some light on the way with which we will deal with the interpretation of CFCs.

When a sentence contains a covert temporal variable, such as the following, there are usually two readings of it.

(38)   Every time John lights a cigarette, it rains. (Stanley, 2000)

The two readings are as follow:

(39)   For every time t at which John lights a cigarette, it rains at t at the location in which John lights a cigarette at t.

(40)   For every time t at which John lights a cigarette, the denotation of "rains" takes $<t, l>$ to the True, where l is the contextually salient location in the context of utterance of (38).

The theory of unarticulated constituent can only predict (39), in which the locational variable is free. But the binding argument accounts for both, one in which the relevant variable is provided by context, as in (40), and the other in which it is bound, as in (39).

The same is true with sentences using comparative adjectives, such as the following:

(41)   Sherman is small.

Although some would argue from an unarticulated constituent perspective that the interpretation of the sentence would be:

(42)   "Small" is relative to a context c, and is the set of things of size less than s, where s is the standard made salient in c.

There is another reading (43) which is as natural as (42), but cannot be accounted for if one believes in the unarticulated constituent approach.

(43)   Sherman, a member of a set S, is small for the set S that it belongs.

As Stanley put it, comparison classes are the values of contextual variables correlated with comparative adjective.

A sentence containing a quantifier expression is also much discussed as an evidence for the existence of unarticulated constituents:

(44)   The math classes are going well. Nobody has failed anybody the entire year.

The interpretation for (44) is that no teacher x failed any student y such that y is in x's math class. And even if teacher x failed some student in some classes other than math, the above sentence is still correct. For the sentence to make sense, the domain of the second quantified expressions in the sentence, "anybody", co-varies with the values introduced by the first quantifier expression, "nobody". And context plays such a role that it provides a function mapping a teacher to the set of students in that teacher's math class.

6.3.2.2 From Protasis to Apodosis: A Process of Saturation

Indexicalists, by using the Binding Argument, argue that many cases of free pragmatic enrichment held by contextualists in fact involve saturation. We want to argue in this section that the interpretation of the apodosis in the context of the protasis of a CFC is also a process of saturation.

A CF sentence can be represented in a variety of ways in a tree diagram.

(45) 如果昨天天晴，我們就去野餐了。

Ruguo   zuotian   tianqing,   women   jiu   qu   yecan   le.

if   yesterday   sunny   1PL   then   go   picnic   PRT

If it had been sunny yesterday, we would have gone to clinic.

One way in which (45) can be represented is:

$$
\begin{array}{ccc}
 & S^0_i & \\
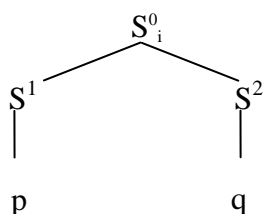S^1 & & S^2 \\
| & & | \\
p & & q
\end{array}
$$

Figure 24

Let's suppose that to obtain a natural reading of (45), the CFC needs to be interpreted with restriction set by the context. In the studies of quantifiers (Stanley & Szabó, 2000), the context is indicated by the *domain variable*. Since the interpretation of a CFC is related to the set of worlds, instead of set of properties or objects, the name of *world variable(i)* is coined to meet the need here.

The world variable in Figure 24 co-habits a non-terminal node, S^0, the conditional sentence, which dominates both the terminal node occupied by the protasis S_1 and the terminal node occupied by the apodosis, S_2.

According to Figure 24, world variable occurs in non-terminal node. According to

the composition rules and the syntactic structure of a conditional sentence, the protasis (containing a hypothetical conjunction) denotations are functions from truth values to truth values.

(46) $[_{S^{o_i}}S^1 S^2]_{M,c} = t$ iff $[S^1]_{M,c}([S^2]_{M,c}) = t$.

(47) $[_{S^{o_i}}S^1 S^2]_{M,c} = [S^1]_{M,c} ([S^2]_{M,c} \cap c(i))$.

   Or

   $[_{S^{o_i}}S^1 S^2]_{M,c} = [S^2]_{M,c} ([S^1]_{M,c} \cap c(i))$.

$[\alpha]_{M,c}$ refers to the denotation of α with respect to the model M and context c.

There is some problem with (46) and (47). Since, theoretically, the contextual variable can either affect the protasis or the apodosis, either (46) or (47) will work. They apply the function denoted by one of the clauses to the result of intersecting the denotation of the other clause with the value of the context valuable (or world valuable in this specific occasion). According to the Principle of Compositionality, "the properties of a non-terminal node are fully recoverable from its daughters" (Neeleman & van de Koot, 2002). In other words, suppose α is a non-terminal node immediately dominating $\beta_1 ... \beta_n$, then there is a function f such that $[\alpha] = f([\beta_1], ..., [\beta_n])$ (Stanley & Szabó, 2000). But what (46) and (47) show to us is that the denotation of a conditional sentence which contains a protasis and an apodosis is more than the application of the function of the denotation of the protasis to that of the apodosis. In different contexts (here, worlds), the denotation of the conditional sentence will vary. It does not meet the requirement of the Principle of Compositionality.

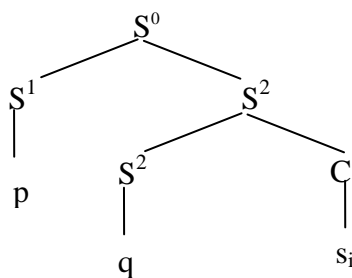Another kind of representation can be:

Figure 25

In the second representation, the world domain variable occupies a terminal node. Although this time it does not violate the Principle of Compositionality, another serious problem occurs. The clause of s_i is in fact an unarticulated clause. As Stanley (2007) puts it, it is not that "such a syntactic justification is impossible to provide", but rather "such a burden on syntactic theory" is not necessary.

Under the topic of conditionals, the relationship between the protasis and the apodosis is much discussed. Although many people hold that a conditional is understood as a statement which affirms that some sort of logical or casual connection holds between the protasis and the apodosis (Stalnaker, 1968), there are still examples whose protases are not related to the apodoses in such a direct way.

(48) 如果天氣很好，那麼我們就可以去燒烤了。

Ruguo   tianqi   hen   hao,   name   women   jiu   keyi   qu

if   wheather   very   fine   then   1PL   then   can   go

shaokao   le.

barbeque   PRT

If it is fine, we can go barbeque together.

Does "weather" have anything to do with "go barbeque"? If so, a sentence s_i needs to be added to make explicit the inner connection:

(49) s_i= Only when it is fine can a barbeque party, an outdoor activity, be carried

out.

Since (49) comes out of nowhere in the original conditional, it is not appropriate to insert it in the logical form.
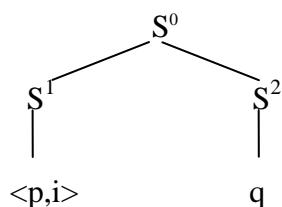
A third representation can be:

Figure 26

In the third representation, the world variable co-habits the terminal node denoted by the protasis, rather than the terminal node occupied by the apodosis. In a CFC, both the protasis and the apodosis need to be interpreted in the same possible world. Yet, when the world variable co-habits with the protasis, the apodosis becomes free, which means that the inner connection between the two clauses is cut off. The interpretation of the sentence is not the correct one.

So, we have to turn to the fourth representation, our preferred one, to illustrate the interpretation of a CFC from the perspective of the relationship among the possible worlds selected, the protasis and the apodosis.
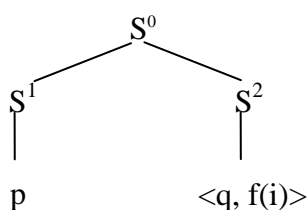

Figure 27

In Figure 27, the apodosis co-habits a node with a world variable i. Suppose we have the following CF sentence:

$$If_{cf} \text{ p, then q}$$

Then, the logical form of it would be:

$$If_{cf} \text{ p, then } <q, f(i)>$$

"Context" not only refers to the person, time, place and event which are relevant to a certain situation, but also worlds, which is especially true with the topic under discussion. Context assigns to f a function from worlds to events which are true in those worlds, and i is assigned the salient world. Since the protasis sets the *world*, the apodosis of the conditional can thus be interpreted along with its own context-independent meaning and syntactic configuration.

But indexicalism only provides a general framework. To work out a representation which fits specifically for a CFC, we also need to take into consideration the composition and the syntactic structure of the protasis.

Kratzer developed a well-known semantic theory of modality through a series of papers (1977, 1978, 1981, 1986, 1991a, 1991b). In her theory, there are two key concepts. One is relative modality, and the other is ordering semantics. Modals are defined as relative, because they are relative to "conversational backgrounds", i.e. sets of background assumptions. Ordering semantics indicates that sets of worlds that are related to the modality are ranked, instead of simply being tagged as accessible or inaccessible. According to Kratzer (1981), two context-dependent elements are to be taken into consideration when a sentence is interpreted:$[[\ ]]^{c,f,g}$. One of them is f, the modal base. A modal base is a set of worlds w where all the propositions in the conversational background are true: the worlds in $\cap f(w)$. The other is g, the ordering source, a function that ranks all the worlds in the modal base according to how close they get to some "ideal" in the evaluation world, as $\leqslant_{g(w)}$. And c stands for context. Applying these two elements to the analysis of CFCs, Kratzer (1981) claims that a CFC is characterized by an empty modal base[67] f and a totally realistic ordering source[68] g. "All possible worlds in which the protasis p is true, are ordered with respect to their

---

[67] "Empty modal base" is one of the modal bases proposed by Kratzer. Other modal bases include: epistemic and circumstantial.
[68] "Realistic ordering source" is one of the ordering sources proposed by Kratzer. Others include: deontic, stereotypical and bouletic.

being more or less near to what is actually the case in the world under consideration"
(Kratzer, 1981). Kratzer also claims that an *if* clause may serve to restrict a modal
operator. When a modal is the highest verbal element in the *then* clause, the *if* clause
helps to determine the set of accessible worlds. This link within a conditional sentence
can be illustrated by the following structure:
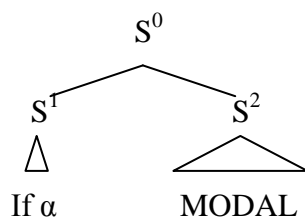
Figure 28

The problem with the above structure lies in MODAL. What is the modal for
conditional sentences, especially CFCs? Many linguists believe that conditional
modality is epistemic. Epistemic modality is defined as "speakers express their
judgments about the factual status of the proposition" (Palmer, 2000). Jespersen (1924)
claims that conditionals "contain no element of will", which simply means that they are
epistemic modal. According to Givon (1994), conditionals lie on an "epistemic scale".
However, in the protasis of a Chinese conditional sentence, no trace of modal verb can
be found:

(50) 如果我是市長，我就會把個稅起征點定在 3000 元。

Ruguo   wo   shi   shizhang,   wo   jiu   ba   geshui

if   1S   be   mayor   1S   then   BA   personal income tax

qizhengdian   ding   zai   sanqian   yuan.

cutoff point   set   at   hree thousand   yuan

If I were mayor, I would set the cutoff point of the personal income tax at

three thousand yuan.

Further, modal forms, such as *hui*(會) only appears in the apodosis, or would even

miss out from the apodosis completely:

(51)　要是海琳真的中了三千七百萬六合彩，她就辭職了。

Yaoshi　Hailing　zhende　zhong　le　　sanqianqibaiwan　　liuhecai,

if　　　Hailing　really　win　　LE　　thirty seven million　mark six

ta　　　jiu　　cizhi　　le.

3S　　　then　　quit　　PRT

If Hailing really had won the thirty-seven-million-mark six, she would have quit her job.

Therefore, epistemic modality might not give a satisfactory explanation to the conditional modality either in terms of the locus of the modality, or suitability of traditional modal expressions or consistency of modal forms in the protasis and apodosis.

One solution would be to introduce the concept of irrealis modality. As we have discussed in Chapter Three, irrealis is in contrast to realis, which always appears in the study of typology. It portrays situations as purely within the realm of thought, knowable only through imagination (Mithun, 1999).　Since CFCs and indicative conditionals are two different types of conditionals, the protasis of the former expresses the modification of hypotheses that are less likely, and the protasis of the latter expresses the modification of statements rather likely. Moreover, the modality in the protasis is also grammatically marked. For English, a CFC is marked by back-shifting, while an indicative conditional is marked by indicative mood. Since the source of irrealis is language-dependent, the analysis of the CF ingredients in the earlier chapters of this paper provides us with evidence that the ingredients in question are the source of irrealis mood. To be more exact, hypothetical conjunctions, working together with factual components and/or negative components, express irrealis modality.

Based on Su's (2008) analysis, together with our understanding of the irrealis

modality, the structure of a CFC in Chinese can be sketched out as follows:

Figure 29

The irrealis modal (ModP) is the core of the structure of the protasis. It quantifiers over the best p worlds set by the modal base (G) and the ordering source (R). Since they are not of essential importance to the discussion here, their associated elements in the tree diagram are represented by Greek letters. When a CFC in Chinese is uttered, the speaker can use a variety of ways to express counterfactuality, such as using both factual (Com$_F$) and negation (Com$_N$) components with negation scoping over fact (as in I), or the other way around (as in II), or either factual or negative component (as in III).

Here is an example.

(52)　如果不是奧尼爾關鍵時刻力挽狂瀾,湖人恐怕難以獲得本場比賽的勝利。

Ruguo　bushi　aonier　guanjian　shike　　liwankuanglan,　huren

if　　　NEG　O'Neill　crucial　　moment　save the game　　Lakers

kongpa　nanyi　huode　benching　bisai　　　　de　　shengli.

afraid　　difficult　achieve　this　　　competition　DE　success

If it had not been for O'Neill who saved the game at the crucial moment, the

Lakers would not have been able to win this game.

According to the theory that has been sketched above, (52) can be rewritten into the following representation:

(53)　If$_{cf}$ (不是奧尼爾關鍵時刻力挽狂瀾), then <(湖人恐怕難以獲得本場比賽的勝利), f(i)>

The negative component *bu*(不) and factual component *shi*(是) work together with the conjunction *ruguo*(如果) to specify the irrealis modality as CF, which means that the proposition contained in the protasis (considering the negation on the proposition, $\bar{p}$) is contrary to reality. This local context assigns to *f* a function from worlds in which the proposition that NBA superstar O'Neill were not the Lakers' clutch-player is true, to sets of propositions which are true in these worlds. This function, applied to the possible world in the set of worlds which is the closest to the actual world in which he is not the clutch-player, and the interpretation of the apodosis can thus be made in that specific world.

6.3.3 Macro Context

When the first layer of context, which is composed of the CF ingredients, cannot provide enough evidence to trigger the operation of the second layer of context for the judgment of the reading of the conditional sentence, a third layer of context, the macro context, is accessed, without which ambiguity will arise.

Macro context is so called, because it can be obtained from a variety of sources. It can refer to both linguistic and non-linguistic information, both discourse content and exterior situation. It can thus be roughly divided into three kinds.

The first kind is the information provided by the discourse. The information,

especially the part which is related to the proposition contained in the protasis of the conditional, is used as a background against which the protasis is evaluated. Suppose that we have the following conditional sentence:

(54) 如果是明星的戲，導演是不會用這樣的煙霧的。

Ruguo	shi	mingxing	de	xi,	daoyan	shi	bu	hui
if	be	movie star	DE	scene	director	EMP	NEG	will

yong	zheyang	de	yanwu	de.
make	such	DE	smoke	PRT

If it is a scene shot by a movie star, the director would not make such smoke for a special effect.

If (54) is preceded by the following sentence, it is interpreted in a CF way.

(55) 你是跑龍套的，所以就忍一忍吧。

Ni	shi	paolongtao	de,	suoyi	jiu	ren-yi-ren	ba.
2S	be	walk-on	DE	so	then	bear-one-bear	PRT

You are a walk-on, so just put up with it.

But if the same sentence is interpreted in a context in which the following sentence is uttered, then it needs to be interpreted into an indicative conditional.

(56) 拍電影會用到很多特效，但也要看看具體某一場是誰出演。

Pai	dianying	hui	yongdao	henduo	texiao,	dan	ye
shoot	movie	will	use	a lot of	special effects	but	also

yao	kan-kan	juti	mou	yi-chang	shi	shui	chuyan.
will	see-see	specific	certain	one-CL	BE	who	act

Although a lot of special effects are used in filmmaking, whether to use or not depends on who the actor is for a specific scene.

The second kind is the interlocutors' knowledge about the world. The specific content may not appear in the discourse, but both the speaker and the hearer take it as

part of the shared knowledge and thus no misunderstanding will arise from it. Such knowledge can be the law of nature:

(57)　如果明天太陽從西邊出來，我就嫁給你。

Ruguo　mingtian　taiyang　cong　xibian　chulai,　wo　jiu

if　tomorrow　the sun　from　west　rise　1S　then

jia　gei　ni.

marry　to　2S

If the sun rises from the west tomorrow, I will marry you. (But the sun rises in the east.)

It can be reality or facts.

(58)　如果我是特首，我早就任命你為特首辦主任了。

Ruguo　wo　shi　teshou,　wo　zaojiu　renming　ni　wei

If　1S　be　CE　1S　already　appoint　2S　as

teshouban　zhuren　le.

CE's office　manager　PRT

If I were the CE, I would already have appointed you manager of the CE's office. (But I'm not the Chief Executive of HKSAR.)

It can also be common sense shared by a certain group of people. Suppose the following sentence is uttered:

(59)　要是泰坪在佐敦地鐵站下，去理工大學可以少走 15 分鐘路了。

Yaoshi　Taiping　zai　Zuodun　ditie　zhan　xia,　qu　ligongdaxue

If　Taiping　at　Jordan　metro　station　off　to　PolyU

keyi　shao　zou　shiwu　fenzhong　lu　le.

can　less　walk　fifteen　minutes　walk　PRT

If Taiping had got off at the Jordan metro station, it would have taken him fifteen minutes less to walk to the PolyU.

For people who work or study at Hong Kong Polytechnic University, or for those who are familiar with the geographical location of the University, they would share the common sense that Jordan station is the nearest metro station. And if one gets off at either Tsim Sha Tsui or Mong Kok, he has to walk a long way to get to the destination. To evaluate the protasis of (59) against the encyclopedic background, the conditional sentence is thus interpreted in a CF way.

The third type involves the physical situation at the time when the utterance occurs. This type is called physical because it is definitely non-linguistic. It can only be perceived by the interlocutors from the immediate environment around them. It could be the weather, the appearance of the interlocutor, any object within their sight, etc.

(60)　如果現在天晴，我們就可以去海洋公園了。

Ruguo　xianzai　tian　　qing,　women　jiu　keyi　qu

if　　　now　　weather　fine　1PL　　then　can　go

haiyanggongyuan　　le.

Ocean Park　　　　PRT

If　it were fine now, we could go to the Ocean Park.

(61)　如果你再瘦一點，穿這條裙子會更好看的。

Ruguo　ni　zai　shou　yidian,　chuan　zhetiao　qunzi　hui　geng

if　　2S　more　slim　a bit　　wear　this　　skirt　will　more

haokan　de.

nice　　PRT

If you were a bit slimmer, you would look even better in this skirt.

(62)　要是前面那棟房子再矮一些，就能從這裡看到海景了。

Yaoshi　qianmian　nadong　fangzi　zai　ai　　yixie,　jiu　neng

if　　　front　　that　　building　more　lower　a bit　then　can

cong	zheli	kandao	haijing	le.
from	here	see	sea view	PRT

If the building in the front were lower, we could enjoy the sea view from here.

So, (60) is a CFC if it is rainy when the sentence is uttered; (61) is a CFC if the hearer is not slim enough to fit the skirt; and (62) is CF if the building in front of the building in which the interlocutors are both located blocks the view.

6.3.4 Interaction of Three Layers of Contexts

The three layers of contexts that are involved in the process of generating CF reading have been presented. But none of them can lead to counterfactuality independently. Among the three, compound sentence context is the kernel component, without which the process cannot be carried forward. Both local context and discourse context are secondary components, each of which works jointly with the compound sentence context.

When the protasis of a conditional sentence contains CF ingredients which can provide enough information for the hearer to interpret the CFC, the process can be illustrated by the following chart:
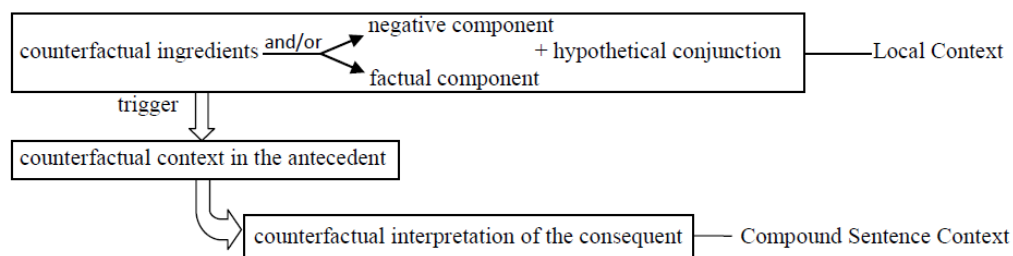

Figure 30

For example, when the following sentence is uttered (example (24) is repeated here as (63)):

(63) 如果不是在網上的留言板上讀到，我不知道有人那樣想。

Ruguo	bushi	zai	wangshang	de	liuyanban	shang	dudao,
if	NEG	in	internet	DE	bbs	on	read

wo	bu	zhidao	youren	nayang	xiang.
1S	NEG	know	someone	that way	think

If it had not been what I had read from the BBS on the internet, I would not have known that someone would have thought about it in that way.

The negative operator *bu*(不) and the factual component *shi*(是), both interacting with the hypothetical conjunction *ruguo*(如果), trigger CF reading of the protasis. This local context assigns to *f* a function from worlds in which the proposition that I had not read about other people's comments from BBS is true, to sets of propositions which are true in these worlds. This function, applied to the world in the set of worlds which is the closet to the actual world, and the interpretation of the apodosis can thus be made in that specific world. Compound sentence context is thus created and the whole conditional sentence is interpreted in a CF way.

When the protasis either lacks a negative operator or both, macro context provides a background, as we have discussed earlier, to create a CF context for the conditional.
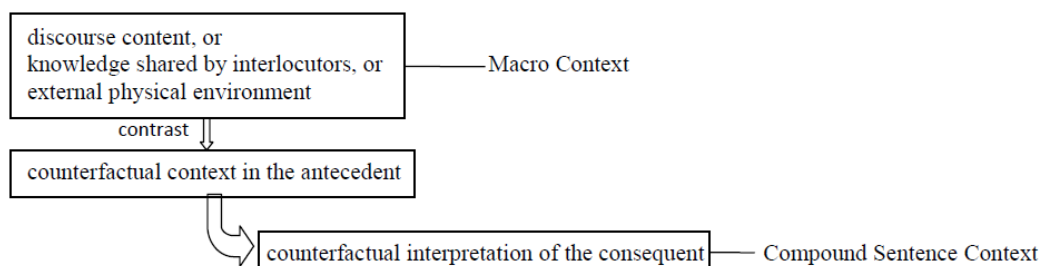

Figure 31

So, it seems CFC has two inference modes. Figure 30 is bottom-up, while Figure 31 is top-down.

CHAPTER SEVEN   CONCLUSIONS AND PROSPECTS FOR FUTURE RESEARCH

7.1 More on the Interpretational System

The interpretation of the logical form: If$_{cf}$ p, then <q, f(i)> is based on Stalnaker's (1968, 1975) analysis of the truth conditions of a CFC. According to him, a CFC is true in a world *w* iff the apodosis is true in the world most similar to the actual world in which the protasis is true. Therefore, in the expression of <q, f(i)>, relative to a context, *f* is assigned a function from a set of worlds to the propositions that are true in these worlds. Relative to a context, *i* is assigned a set of worlds in which the protasis *p* is true. When such a set of worlds is obtained, it intersects with the proposition in *q* and the worlds in which *q* is also true can be identified and among them, the one which is the closest to the actual world is the one in which the apodosis can be interpreted. An example can be used to illustrate this process:

(1) 如果不是奧尼爾關鍵時刻力挽狂瀾,湖人恐怕難以獲得本場比賽的勝利。

Ruguo   bushi   ao'ni'er   guanjian   shike   liwankuanglan,   huren

if   not   O'Neill   crucial   moment   save the game   Lakers

kongpa   nanyi   huode   ben-chang   bisai   de   shengli.

afraid   difficult   achieve   this-CL   competition   DE   success

If it had not been for O'Neill who saved the game at the crucial moment, the Lakers would not have been able to win this game.

According to the theory that has been sketched above, (1) can be rewritten into the following representation:

(2) If$_{cf}$ (不是奧尼爾關鍵時刻力挽狂瀾), then <(湖人恐怕難以獲得本場比賽的勝利), f(i)>

Suppose the set of all the possible worlds *W* include w_1, w_2, w_3 and w_4. In each

possible world, there are four propositions which are true.

(3)

w_1
p_1= O'Neill did not save the game at the crucial moment.
p_2= It was difficult for the Lakers to win this game.
p_3=Fans were hysterical during the game.
p_4=The tickets were really expensive

w_2
p_1= O'Neill did not save the game at the crucial moment.
p_2= It was easy for the Lakers to win this game.
p_3=Fans were very quiet during the game.
p_4=The tickets were really expensive.

w_3
p_1= O'Neill saved the game at the crucial moment.
p_2= It was difficult for the Lakers to win this game.
p_3=Fans were very quiet during the game.
p_4=The tickets were really cheap.

w_4
p_1= O'Neill did not save the game at the crucial moment.
p_2= It was difficult for the Lakers to win this game.
p_3=There were not many fans watching this game.
p_4=The tickets were really expensive.

The negative component *bu*(不) and factual component *shi*(是) work together with the conjunction *ruguo*(如果) to specify the irrealis modality as CF, which means that the proposition contained in the protasis (considering the negation on the proposition, $\bar{p}$) is contrary to reality. This local context assigns to *f* a function from worlds in which the proposition that NBA superstar O'Neill was not the Lakers' clutch-player is true, to sets

of propositions which are true in these worlds. That means the set of worlds that are selected include w_1, w_2 and w_4. The propositions interact with the proposition contained in q and w_4 were selected because q was true in these two worlds. Now in these two worlds, w_1 wins out because it is closer to the actual world, (suppose w_1 shares more rules and laws with the actual world)[69] and the interpretation of the apodosis can thus be made in this specific world.

There are several advantages of establishing the interpretation of a CFC via accessing three layers of contexts.

The *first* one concerns the three CF fallacies (see 1.1). Based on the analysis of the relationship between protasis and the apodosis, we can find evidence to prove that the CF fallacies are not fallacies at all, if the context remains the same. CF fallacies refer to a number of valid inference patterns associated with the material conditional which are not valid for CFCs. They include: strengthening the protasis, transitivity and contraposition. And as our concept of the second layer of context – compound sentence context – indicates, context not only refers to the person, time, place and event which are relevant to a certain situation, but also worlds, which is especially true in the discussion of CFCs.

A classic example of strengthening the protasis is quoted as follows:

(4) a.   If I had struck that match (p), it would have lit (q, <f(i)>).

b.   (Therefore) if I had struck that match, and it had been soaking in water, it would have lit.

The proposition contained in the protasis, "I struck that match" assigns to f a function from a set of worlds in which the proposition p is true to the set of propositions which are true in these worlds. By comparing q with these propositions, one or more worlds can be obtained and the one (w_m) that is the closest to the actual world is the one

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[69] This is exactly where the problem with accessibility (or closeness) lies.

for interpretation. But, since *w* is the closest to the actual world, they share the same rule. That is, a lit match cannot be wet (soaking in water). When evaluating (4b), we must stick to the same context, the possible world *w*, and hold that the match was dry, and therefore its protasis which states that "it had been soaking in water" is a counterpossible. The conclusion is vacuously true.

This also applies to the fallacy of CF transitivity. Hendrickson[70] (2008) cited an example of Reinhard Gehlen, a General in the German Army during World War II.

(5)   a. If Reinhard Gehlen had not been a Nazi, then he would not have been involved in leading Nazi intelligence operations on the Eastern front.

b. If Reinhard Gehlen had not been involved in leading Nazi intelligence operations on the Eastern front, then he would not have been a supporter of NATO operations after WWII.

(Therefore…)

c. If Reinhard Gehlen had not been a Nazi, then he would not have been a supporter of NATO operations after WW2.

The protasis of (5a) sets a set of worlds in which Gehlen was not a Nazi. It works together with the apodosis and specify a possible world (w_R) in which he was not a Nazi, neither was he involved in leading the intelligence operations, and which are also the closest to the actual world. When this context is applied to (5b), it is false, because in w_R it is not guaranteed that he was not a support of NATO operations after WWII. Think about this example the other way round. Take (5b) as the premise to set the background. Its protasis sets the world in which Gehlen did not get involved in the Nazi intelligence operations, neither was he a supporter of NATO operations after WWII. Since it needs to be the one that is the closest to the actual world, the proposition that Gehlen was a Nazi

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[70] Reinhard Gehlen was a leader in the Nazi Eastern Front intelligence operations. After World War II, he was recruited to work in a West German anti-Soviet intelligence organization and aided NATO operations.

is true. So, both the protasis of (5b) and (5c) are false. Both the conditionals are vacuously true. Therefore, no matter in which way this example is analyzed, it is no exception to the transitivity principle.

The third type of CF fallacy concerns contraposition. The following example is also quoted from Hendrickson (2008).

(6) a. If Syria were to be more willing to work with Israel, then Iran would be more willing to work with Israel.

(Therefore…)

b. If Iran were not more willing to work with Israel, then Syria would not be more willing to work with Israel.

The protasis and the apodosis of (6a) specify a possible world (w_S) as context in which the propositions that "Syria is more willing to work with Israel" and "Iran is more willing to work with Israel" are true. When (6b) is to be interpreted in this context, its protasis contradicts with the propositions contained in w_S, and therefore the sentence is thus true.

These three examples suggest that once the context for interpretation remains the same, CF fallacies are no longer fallacies.

The *second* advantage of adopting this explanatory method that we came up with is that it can better explain the relationship between irrealis and CFCs. The previous studies on irrealis only claim that CFCs are the most typical kind of irrealis sentences because they are the farthest from reality compared with other kinds in the same category. Nothing else has been discussed. Our observations go beyond its classification. It is claimed in the discussion that irrealis modality is an essential component of the kernel layer of context. The CF ingredients that have been summarized are the source of irrealis modality and the joint work of CF ingredients and hypothetical conjunctions distinguish CFCs from other types of conditionals. Moreover, the seemingly realis

markers, which refer to factual components and negative components, cannot function by themselves. Therefore, the realis label attached to them is only an individual one. Under the context of counterfactuality, they still make contributions to irrealis modality and their individual identity can thus be put aside.

The *third* advantage in developing such an account of the CFCs and their intuitive truth-condition lies in that it is a faithful reflection of the linguistic reality in Chinese. CF ingredients are unique in the construction of a Chinese CFC compared with its English counterparts. In our account, they are no longer trivial and some of them which were once taken as redundant can be successfully categorized either to be a factive component or a negation component, and thus can all be incorporated into the system of CF interpretation. The account fully considers the occasions in which these ingredients are sufficiently responsible for creating a CF reading in the protasis, which reflects the situations in our daily communication where a CFC is provided without an explicit context. Discourse context has also been attached importance to, not only because it has been regarded by many linguists as a determining factor in the interpretation of a CFC, but also we agree that when CF ingredients cannot provide enough clues for judgment, interlocutors need to rely on the discourse context. But the way that the context affects the reading of the conditional, especially that on the apodosis is not intangible. The theory of indexicalism provides a succinct explanation as to how counterfactuality can be transferred from the protasis to the apodosis to restrict the reading of the latter. Our account contains three layers of contexts, which fully represents the complexity of the structure and more mental effort is required to process such conditionals. Feng and Yi's (2006) study on self-paced reading of conditional sentences show that the time spent at the end of a Chinese CFC is significantly longer than other types of conditionals. Although we cannot know from this experiment what the participants were thinking

about at the end of a conditional sentence[71], (maybe trying to recall the CF markers or contexts,) this is still a powerful evidence for the complexity of CFCs.

7.2 Recapitulation

Throughout this dissertation, we have been attempting to explore the factors that lead to CF reading of a conditional sentence－what ingredients can make such contributions, how do they interact with each other, what is the process involved. Our findings are based on the works and achievements of other linguists and scholars－as far back as Stalnaker's possible worlds semantics in 1968, and as recent as the PhD dissertations concerning irrealis in Chinese since 2006.

I will recapitulate the main findings and conclusions of the three main chapters.

In chapter 4, our main concern is the influence of temporal expressions on CFCs. A whole chapter is devoted to this topic, because in English counterfactuality is also realized through tense and aspect. Moreover, they are the most systematic group of ingredients so far. The analysis has been carried out on the basis of the standard tripartite temporal structure: phase-aspect-tense. In terms of phase, it is proved that conditionals with a protasis containing static phase is unlikely to be CF unless adverbs, such as *zao* (早), are added to provide a temporal boundary to the endless "state". In terms of aspect, a conditional containing imperfective aspect in the protasis has equal possibility to be a CF or an indicative conditional. If it contains perfective aspect, the situation is more complicated. But a perfective in past tense is more likely to lead to CF reading. Aspect markers, such as *le*(了), *zhe*(著) and *guo*(過), can be used to enforce the CF reading of a conditional. Last, but not least, there are tense-related ingredients. There is a natural link between past tense and counterfactuality. But in a normal state, such a link does not exist

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[71] An alternative way would be to use eye-tracking system to record both the movement of the reader's eyeball and the time length spent on a certain lexical element.

if it is future tense. We have also examined the possible combinations of tense in the protasis and the apodosis.

Although the forms of aspect markers and time adverbs vary, they share the same function, which is to put some distance between the end point of the event time and the reference time. But to take effect, it still needs to rely on absolute time－tense to realize counterfactuality. In other words, only when tense works together with other temporal elements, can the CF reading be obtained.

Chapter 5 examines other types of CF ingredients. It starts with hypothetical conjunctions, which is usually regarded as a structural marker of conditionals. The connection between the choice of a conjunction and the reading of a conditional reveals that in Chinese most of the hypothetical conjunctions lead to either reading, except *yaobushi* and *wanyi*, with the former being CF specific and the latter indicative specific. The unique role of negation is reflected in two aspects. First, the combination of "hypothetical conjunction + *bushi*(不是)/*meiyou*(沒有)" almost inevitably lead to CF reading. Second, the name of CF indicates a negation of the facts. Although negation can be realized in a variety of ways, using negators is the most common one. Among all the negators in Chinese, it has been proposed that *bushi*(不是) is most likely to be applied to such a conditional than others.

It is also claimed in this chapter that different personal pronouns in the protasis may lead to different readings. The protasis containing a first person pronoun illustrates an event or situation that happened or is happening to the speaker and therefore is a fact. When it works with a hypothetical conjunction, it is easier to achieve a CF effect than others. Another finding is that when rhetorical questions are added to the apodosis, it is more likely to lead to CF reading than a statement. Finally, CF enhancers were discussed, including *zhende*(真的), *zai*(再), *xie*(些) and *hai*(還). In spite of their varied meanings, they all function to remind the hearers that there is an actual world which is different

from what is stated in the protasis.

Chapter 6 sketches a framework in which the semantic processing of a CFC can be represented. The whole idea has been inspired by the prolonged debate among minimalists, contextualists and indexicalists. For the convenience of discussion and to find out the major factors that leads to counterfactuality, a further analysis on the CF ingredients suggests that they in fact can be categorized into two groups—factual components and negative components, while hypothetical conjunctions remain an independent category. The different combinations of ingredient types will lead to CF reading of different strengths. Moreover, those ingredients which appear in the protasis, instead of those in the apodosis, play a dominant role in determining the reading of a conditional sentence.

To provide an explanation which is as general as possible to cover most of the cases, and at the same time as faithful as possible to reflect its use in daily life, we have proposed that the CF meaning of a conditional sentence can be established through accessing three layers of contexts: local context, compound sentence context and discourse context. The formation of a local context depends on the CF ingredients contained in the protasis. A possible world is selected which is contrary to the reality as is stated in the protasis proposition. Its influence is believed to be restricted within the clause itself. To transmit its counterfactuality, a second context is required. Compound sentence context is based on the relationship between the two clauses of a conditional sentence, and it is the crux of the whole structure. At this point, we adopt the indexicalists' belief and claim that the CF reading of the apodosis does not come out of nowhere. The context formed in the protasis occupies a position in the logical form of the apodosis. Therefore the whole process is not a free enrichment. Although throughout the dissertation, we have tried to emphasize the importance of CF ingredients so as to refute Bloom's opinion that Chinese does not have linguistic forms to express

counterfactuality, we still have to admit that discourse context, the information provided beyond the conditional sentence per se, does contribute to the reading of a conditional sentence. Local context plus compound sentence context may account for the large number of CFCs with CF ingredients in the protasis, while discourse context plus compound sentence context may justify those without explicit grammatical markers.

The search into the presentation of counterfactuality in Chinese conditionals is a reflection of the relationship between semantics and pragmatics. Those linguists who intend to identify lexical forms and syntactic structures which cause the conditional to be interpreted in a CF way, solve the problem in a semantic way. Those linguists who attribute counterfactuality to the context in which a conditional sentence is uttered want to provide an explanation within a pragmatic framework. But what we have proposed is a semantic-pragmatic solution as we have found that either semantic tools or pragmatic alone would not be possible to give a satisfactory answer to this rather complicated phenomenon. The complexity of this problem lies in that counterfactuality can be obtained through either CF ingredients or context or both. Moreover, the protasis and the apodosis are not equally marked. CF reading is usually established in the protasis and is transferred to the apodosis. We therefore argue that there exist CF ingredients in Chinese and the pragmatic process of accommodation can be restored at the level of logical form.

7.3 Suggestions for Future Research

Although Bloom's arguments have been generally regarded as problematic, his research unquestionably brought his peers' attention to this interesting yet formidable research topic. The studies after him, including this one, have been carried out from different perspectives and within varied theoretical frameworks, from which no unanimous conclusion has been reached, but a much clearer picture has been drawn. Based on the conclusions that have been reached here, there are several directions to be

developed further in the future.

The focus of our research here is on CF conditionals, but in Chinese, counterfactuality can also be expressed through non-compound sentences. Such examples are not uncommon.

(7) 你早該聽我的話。

    Ni   zao   gai   ting   wo   de   hua.

    2S   early   should   listen   1S   DE   word

    You should have already listened to me.

(8) 《加勒比海盜》第四部本應是完美的落幕。

    《Jialebi   haidao》   di-si-bu   ben   ying   shi

    Caribbean   pirate   number-four-CL   original   should   be

    wanmei   de   luomu.

    perfect   DE   drop-curtain

    "Pirates of the Caribbean: IV" should have been the finale.

(9) 儂蠻好昨日來額。(Shanghai dialect)

    你蠻好昨天來的。

    Ni   man   hao   zuotian   lai   de.

    2S   very   good   yesterday   come   PRT

    You should have come yesterday.

(10) 看得懂還要好。(Shanghai dialect)

    要是能看懂就更好了。

    Yaoshi   neng   kan-dong   jiu   geng   hao   le.

    if   can   see-understand   then   more   good   PRT

    It would be even better if you could understand it.

(11) 伊有房子倒好哎,肯定有人肯嫁被伊。(Shanghai dialect)

    他要是有房子就好了,肯定有人願意嫁給他。

Ta yaoshi you fangzi jiu hao le,

3S if have house then good PRT

kending you ren yuanyi jia gei ta.

definitely have people will marry to him

If he has his own house, there will be someone willing to marry him.

Sentences (7)-(9) have one thing in common. They are all simple sentences with CF reading. In (7), *zaogai* (早該) indicates that the speaker believes that the listener did not listen to him. *Benying*(本應) in (8) functions in the same way as *zaogai* (早該) does. The movie fans originally thought that the fourth episode would be the concluding episode. But the Walt Disney Company, in order to make more money, has decided to shoot the fifth and sixth episodes. (9) contains a typical CF ingredient in Shanghai dialect— *manhao* (蠻好). Xingna Qiang (2011) gives a detailed description of its use. On the one hand, *Manhao* (蠻好) is different from the CF ingredients that have been mentioned in this dissertation, because it seldom forms a part of a conditional sentence and always denotes past subjunctive mood. On the other hand, it shares some similiarity with the counterfactual ingredients that have been discussed, hypothetical conjunctions (such as *yaoshi*(要是), *ruguo*(如果), *jiaru*(假如)) and CF enhancers (such as *zai*(再), *you*(又) and *zhende*(真的)) in that they all provide an alternative, i.e. a possible world, which is different from actuality and in which the sentence can be interpreted. In Shanghai dialect, more examples can be found, for example …*haiyaohao*(還要好) construction (see (10)) and …*daohaolai* (倒好唻) construction (see (11)). Therefore, to find out the connection between CF simple sentences and CFCs is also a noteworthy topic.

Another new direction for the study of CFC in Chinese would be to apply new research tools, such as Bayesian Probability Theory. Two features of CFCs—gradiency and subjectivity—are the main reasons for the suitability of this theory. The feature of gradiency means that there is no clear line between CFCs and indicative conditionals.

There is a gray area between them in which conditionals can be interpreted in either way. In Chapter 2, two examples (14, 15) have already been given, which will not be repeated here. Subjectivity means that CFCs are uttered according to the understanding and knowledge of the speaker. So, it is very much likely that two speakers will make two contradictory CF sentences concerning the same issue. A classic example was given by Gibbard (1981).

> (12) Sly Pete and Mr. Thomas Stone are playing poker aboard a Mississippi River boat. Stone has bet up to the limit for the hand, and it is now up to Pete to call or fold. Zack has seen Stone's hand, which is quite good, and signaled its contents to Pete. A second henchman, Jack, who moves around the table and sees Pete's own hand as well as Mr. Stone's. Stone, suspecting something, demands that the room be cleared. I then later receive two unsigned notes, one of which (in fact written by Zack) says as before "If Pete called, he won." The other note (in fact written by Jack) says "If Pete called, he lost."

These two conditionals cannot be true at the same time, because they are seemingly contradictory. But neither can one of them be true and one of them be false, because they are all about what the speakers believe to be true. Therefore, as linguists (Gibbard 1981, Edgington 2007 and Lycan 2001) have claimed, the truth values of conditionals are never objective.

Bayesian Probability is a subjective probability and it can provide an ideal description to counterfactuality in Chinese conditionals. By dividing CF ingredients into factive components (*fc*) and negative components (*ng*), the meaning of a CFC can be formalized into the following formula:

(13)

$$P(c \mid fc \cap ng) = \frac{P(c)P(fc \mid c)P(ng \mid c \cap fc)}{P(fc)P(ng \mid fc)}$$

The meaning of a conditional sentence is thus extended from $\{0,1\}$ to $\{0 \leqslant n \leqslant 1\}$, i.e. from either CF or indicative to those that can be interpreted in both ways.

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APPENDIX I.

(1) 潘玉嬌感嘆台灣沒有這種重視傳統藝術的學校，她說，如果有，她早就去教了。

(2) 如果他有不法早就受司法審判，怎能參加縣長選舉。

(3) 縣府任何工程都是依法發包，如果有問題早就被法辦。

(4) 他們如果涉嫌賄選，早就被地檢署傳訊。

(5) 我如果有（長壽的秘方）的話早就公諸於世，和大共用。

(6) 如果能夠改善也早就改善了。

(7) 如果是尋常百姓早就被抓了。

(8) 我如果有（長壽的秘方）的話早就告訴大家了。

(9) 如果工作環境不良早就引起員工抗議了。

(10) 他如果害怕，早就投靠蔣家政權。

(11) 國民黨如果不改革，早就被換下來了。

(12) 如果要詐財早就收下不知多少的信徒供養。

(13) 他如果違法，早就被判刑。

(14) 如果是一般公司早就關門。

(15) 如果是老百姓早就被移送法辦了。

(16) 如果有問題早就應該發生了。

(17) 如果知道，我早就解決這個問題了。

(18) 如果要（參）選（市長），早就宣佈。

(19) 監察院如果要查早就該查。

(20) 黨部黨員如果不愛黨早就收手不幹了。

(21) 如果不慰留，早就批了。

(22) 他如果是閩南人，早就當選總統。

(23) 如是是一般人早就出院了。

(24) 如果有（這樣一套拼音系統），世界早就有人使用了。

(25) 如果會引爆早就引爆了。

(26) 如果有錢早就付清欠款。

(27) 如果是民間公司早就宣佈破產了。

(28) 如果退休，他早就有要多從事義工的打算。

(29) 民進黨如果有實力，早就提名過半。

(30) 如果要回應，早就可以回應了。

(31) 如果願意，早就同意了。

(32) 如果得知早就澄清了。

(33) 如果有問題早就被禁止。

(34) 如果是政務官早就離開了。

(35) 如果支持市港合一，早就通過修改商港法，將高雄港交由高市府管理。

(36) 如果有錢早就遷往生活環境更佳的社區。

(37) 如果不妥早就被停掉了。

(38) 就以國會改革為例，如果能啟動，早就啟動了。

(39) 如果在野黨不杯葛早就成立農業部。

(40) 黃石城表示，如果可以辭職早就辭了。

(41) 如果有不法，早就被人揭發。

(42) 如果會打，早就在西元一九九六年，他選總統時就開打了。

(43) 如果怕受傷早就不會從事這項運動了。

(44) 如果不治療他們早就死了。

(45) 這位年輕的英語教師如果在新加坡早就拿到「公共服務勳章」了。

APPENDIX II.

(1)　要是不曾發生<u>過</u>多好。

(2)　你要是遇見<u>過</u>這種事，你就不會這麼不是東西了。

(3)　要是誰家來<u>過</u>什麼人，我們都給人家記下來，彙報上去、黑著人家，那誰還敢在這兒住？

(4)　要是我從中賺<u>過</u>一個錢，天上現在有雲彩，教我五雷轟頂！

(5)　要是想<u>過</u>，你就不會到現在還玩花樣！

(6)　王新英要是根本沒去<u>過</u>，我心裡倒仿佛老有點希望；這麼一來呀，一點希望也沒有嘍！

(7)　你要是沒在大宅門待<u>過</u>，大概你還不信我的話呢。

APPENDIX III.

(1)   <u>如果早</u>貼這個,村子裡能有這麼多病人嗎?

(2)   <u>如果</u>我們<u>早</u>知道敵人會劫機撞向我們的建築,我們一定會竭盡全力去制止它。

(3)   <u>如果早</u>知道 2003 年巴賽隆納世界游泳錦標賽上的失意,會成為中國跳水打造雅典奧運會 6 金輝煌的伏筆,作為國家跳水隊"大家長"的領隊周繼興,覺得新鮮、好玩。

(4)   浦東<u>如果</u>像深圳經濟特區那樣,<u>早</u>幾年開發就好了。@

(5)   <u>如果</u>'賽福奧'<u>早</u>問世兩年,我家良圖也不會死了。#

(6)   <u>如果</u>我<u>早</u>參加這個活動就不會違法了。

(7)   <u>如果早</u>一年,我就把女兒留住,就不用吃'五保'了。@

(8)   "<u>如果早</u>一年用上電,說什麼也要讓女兒在本地找婆家了。@

(9)   <u>如果</u>各地能<u>早</u>一點引起重視,早一點防治,並把好檢疫關口,至少不會造成今天這樣的局面。

(10)   <u>如果</u>這一行動<u>早</u>點開展,或許這場災難就會倖免。

(11)   <u>如果</u>他們<u>早</u>爬上救生筏一步的話,那個姑娘也許就能活下來。

(12)   <u>如果</u>他們<u>早</u>一步對產品的專利進行申請,並及時獲得專利證書,那麼仿冒的情況就會少得多,同時監督管理部門打擊的力度也會大得多。

(13)   <u>如果</u>早作市場預測,<u>早</u>指導農民生產,早作推銷工作,６０萬元也許就不會打水漂兒了。

(14)   <u>如果</u>這兩位家長能有機會<u>早</u>一點接受家庭教育的有關知識,悲劇是否還有可能避免呢？！

(15)   <u>如果</u>他們<u>早</u>一些受到各方面的監督、批評和處分,其行為就不一定會發展到後來那麼嚴重。

(16) <u>如果早</u>在平凡的訓練場上多為難一下自己，立下臥薪嚐膽的決心和志氣，賽場上會換來開心的笑容。

(17) <u>如果</u>中國<u>早</u>有舉辦世界田徑大賽的機會，也許為中國取得第一個男子田徑世界冠軍的就是朱建華了。

(18) <u>如果早</u>１０年參加這樣的會，我們學校會辦得更好。#

(19) <u>如果</u>我們能<u>早</u>點兒上高原，效果可能更明顯。

(20) <u>如果早</u>一年開發這個產品，潤五同志也不會過早地離開我們。@

(21) <u>如果早</u>兩年就有機會到上海來掛職的話，我的工作肯定可以少走一些彎路。@

(22) <u>如果早</u>些放下架子學邯鋼，不至於如此。

(23) <u>如果早</u>知道要交這麼多錢，我也就不會打了。

(24) <u>如果</u>，他<u>早</u>知道妻子是那麼淫蕩，那天晚上他當然也會氣。

(25) <u>如果</u>他<u>早</u>一點兒知道張伯駒夫婦的手中藏著這樣的寶貝，他會對他們採用另一種態度的，會更含蓄，更柔和，更從容。

(26) <u>如果</u>我<u>早</u>一點接觸他的書，就不會無知地造下那麼多孽了！

(27) 我說<u>如果早</u>有打算，我可以撤回《紅旗》的文章給本報發，現在已來不及。

(28) <u>如果</u>我<u>早</u>生四年，那個被留在湖南鄉下的就是我，那麼今天就沒有龍應台，而有龍應湘。#

(29) <u>如果早</u>一點與徐遲商定。說不定他不會做出這樣的選擇。@

(30) <u>如果</u>阿芳母親<u>早</u>些理解孩子，尊重孩子獨立的人格，是不是能夠避免悲劇呢？

(31) <u>如果</u>你<u>早</u>聽我的話，把你的機智用在刀刃上，如今哪怕只是一個處長，人家也不至於敢這麼糟踐我。

(32) <u>如果</u>我能<u>早</u>一星期遇到你，那我的新娘就是你而不是賈桂琳了。

(33) <u>如果</u>能<u>早</u>一點把它曝光，那該有多好！事態不至於發展到如此嚴重，國家也可以少受許多損失。

(34) <u>如果</u>我<u>早</u>讀過《瀛寰搜奇》和《古文明之謎》這兩部書，或早看過穀旭給我影印的那些資料，我相信我也不會把"以耳認字"這個例子說成"荒唐"引進自己的文章。

(35) <u>如果</u>你們<u>早</u>生五、六十年，你們會不會和我們的先輩有同樣的理想，同樣的抱負呢？#

(36) 我<u>如果早</u>知你在埃克斯德(Exeter，一個富人子弟的私立中學)會這樣不快活，決不會讓你留在那裡。

(37) <u>如果早</u>些見到此書，那麼在遊覽南京和寫《金陵雜記》時，就將有更多的知識，也更有趣味了。

(38) <u>如果</u>《批註集》<u>早</u>二十年，三十年發表；如果我在作者健在時公開講差別是矛盾只對一定條件而言的...#

(39) <u>如果</u>稚珊和城北<u>早</u>生二三十年，以她的那麼多文章，早進了"牛棚"。#

(40) <u>如果</u>瞭解<u>早</u>的話，他自己說全盤的佈置就會是另一番樣子了。

(41) <u>如果</u>我<u>早</u>知道我能活這麼長，我一定會更好地保養自己。

(42) <u>如果</u>我能<u>早</u>來一會兒看他……

(43) <u>如果</u>我<u>早</u>知道，或許就不會嫁給你了。

(44) <u>如果</u>我<u>早</u>點知道可以這樣寫的話，我早就幹寫作這一行了。

(45) <u>如果早</u>知道你會有今天的成績，當年不該對你太狠了。

(46) <u>如果</u>我<u>早</u>知道二姨精神不正常，我就不會……

(47) <u>如果</u>我<u>早</u>知道你想見他，就把他帶來了。

(48) <u>如果</u>我<u>早</u>點明白這個道理，也許不會有今天這個結果。

(49) <u>如果</u>早十分鐘，不，<u>早</u>五分鐘，甚至早一分鐘出來，就不會出事了！@

(50) <u>如果</u>他們<u>早</u>一分鐘到，他們就會遇到東山。@

(51) <u>如果</u>沒把秦可卿<u>早</u>一點叫醒，會有多麼嚴重的後果。

(52) <u>如果早</u>派人給巧珠奶奶和張學海談談，也許不至於有這場風波。

(53) <u>如果</u>他們再<u>早</u>幾十秒鐘，很可能會遭遇到紅旗車一樣的命運！@

(54)　　<u>如果</u>我們能<u>早</u>些懂得人生的真諦；

(55)　　<u>如果</u>這個問題<u>早</u>解決一些，媽的體力一定不會消耗那麼大，這又是我的過

錯。

(56)　　<u>如果早</u>點捆綁一下也許就沒有後來的怪事了。

(57)　　<u>如果</u>自己<u>早</u>一點見到"小李白"就好了。

(58)　　<u>如果</u>當初趙盾<u>早</u>知道後人要鬥個你死我活，何必當初還要找這麻煩呢？

(59)　　<u>如果</u>你<u>早</u>一天……這一切根本就不會發生，我也不會受這樣的污辱。@

(60)　　彥成<u>如果早</u>聽到麗琳的威脅，准照樣回敬一句："你也試試看！"

(61)　　那位姓毛的先生<u>如果早</u>半年把真相告訴我們，事情就會完全兩樣。#

(62)　　<u>如果</u>能夠早一點發現，<u>早</u>一點暴露出來，會給國家和人民挽回多少損失？

(63)　　<u>如果早</u>些知道她的身世的話，我不會把她作為重點。

(64)　　<u>如果</u>我和縣委同志們<u>早</u>一點體會到毛主席的遊擊戰爭的指導思想，要少流

多少血呀！

(65)　　<u>如果</u>他們<u>早</u>點認識，恐怕現在已經訂婚了。

(66)　　<u>如果</u>你<u>早</u>點向她求婚，那麼，她一定會答應你的婚事，

(67)　　<u>如果</u>我<u>早</u>走一步，你就見不到我了，

(68)　　<u>如果</u>我<u>早</u>知道她心術不正，我也不會把她介紹給二少爺了，

(69)　　<u>如果</u>你<u>早</u>知道利文有了太太，你也不會和他籌備結婚了。

(70)　　尤祖蔭先生<u>如果早</u>聽到你這番話就好了。

(71)　　<u>如果早</u>知道你是這種人，我當初絕不會同情心氾濫，把你放出去，

(72)　　<u>如果</u>他有機會像沃森那樣，<u>早</u>一點看到這個 X 光照片的話，那完全有可能

他會先發現這個 DNA 雙旋結構，

(73)　　<u>如果</u>我<u>早</u>一百年出生的話，我<u>如果</u>知道這個事情的話，我在沙漠上會攔住

他們的車隊，我會和他們辯論，這是我們祖先的遺產。#

(74)　　但<u>如果</u>這一事件約<u>早</u> 10 加年發生，那麼東歐大部分地區將阿拉伯化和伊斯

蘭教化，並成為今日穆斯林中東的一個組成部分。#

(75) <u>如果早</u>兩年就採取的話，他們就可以避免那些困難了。@

(76) <u>如果早</u>把我們的正式答覆給他們看了就可能，而且很有可能使大多數人接受我們的首要條件

(77) <u>如果我們早</u>知道這一點的話，我們就可大大放心了。

(78) <u>如果我早</u>一點知道我的幾個兒女所遇到的事情，則我們愉快的六天航程將變得遜色。

(79) <u>如果能早</u>一點行動，他就很有可能早已在這裡發現大量的新的乳酪了。

(80) <u>如果早</u>這麼想、這麼做的話，我現在也許就會有一個更好的職位了。

(81) <u>如果此書早</u>些在這裡問世，英國整個一代人的哲學也許就是另一番樣子了。

(82) <u>如果再早</u>一點，真會嚇得他打破玻璃呢！

(83) <u>如果早</u>點知道那天把鷹甩掉的結果就好了。

(84) <u>如果早</u>到幾分鐘，你會發現他的父母也在這裡。

(85) <u>果早</u>點配上隱型眼鏡視力得到矯正的話，也許就會避免發生如此慘痛的事故。

(86) <u>如果元首早</u>知道佛朗哥曾告誡貝當勿挑起領導法國擺脫混亂局面的重擔，他肯定會對佛朗哥更加不悅的。

(87) 彬格萊小姐<u>如果早</u>知道這種不三不四的話會使得她自己的意中人這樣苦痛，她自然就決不會說出中了。

(88) <u>如果</u>他把偵探費克斯的陰謀<u>早</u>告訴福克先生，<u>如果</u>他把這事預先向自己主人<u>揭露</u>，福克先生就決不會把偵探帶到利物浦

(89) <u>如果我早</u>知道他不能盡一個男人的本分，我無論如何也不肯嫁給他的。

(90) <u>如果早</u>知道會在這裡碰到意中人，我一定好好打扮，最起碼從後門走進來之前，我會重新上一層草莓香蕉味的亮色唇膏。

(91) <u>如果我早</u>知道會發生這種事情，我也會寫封信給蘇茜，

(92) 我想她肯定覺得<u>如果她早</u>點把她解決了，小天狼星就不會被殺了。

(93)　　如果喬尼能<u>早</u>趕到一步多好啊！

(94)　　<u>如果</u>我早知道的話！<u>如果</u>我<u>早</u>知道的話！我早該投水死掉，也不要活著來知道人家不愛我了。

(95)　　<u>如果早</u>點說，這話也許能使他軟下來，但是說得太遲了。

(96)　　<u>如果</u>老天爺讓我早出生３００年，我事實上就不會失掉這麼一個機會！@

(97)　　因為<u>如果</u>您<u>早</u>出 生３００年，您怎麼能來到這條船的樓艙上給我們講這段故事呢？@

(98)　　<u>如果早</u>知道，我決不會玩兒痛快的。

(99)　　<u>如果</u>我們<u>早</u>點知道，他也不會吃那麼大的苦。

(100)　　對不起，<u>如果</u>我<u>早</u>點 說的話……

(101)　　<u>如果</u>我<u>早</u>點兒看透了他，就什麼也不圖他的了！

(102)　　不過<u>如果</u>您<u>早</u>跟我講今天晚上想到歌舞劇院來，我也會像他一樣把這個包廂的

(103)　　<u>如果</u>我<u>早</u>知今日有多好啊，

(104)　　<u>如果</u>我<u>早</u>知道在您未來的生活中我只要占您一年的時間，我可能不會放棄跟您一起度過這一年的願望，至少我可以握著我朋友的手死去。

(105)　　<u>如果</u>您<u>早</u>點對我們說，我們也許會安排安排，跟你們在比較舒適的條件下一起去作這次旅行的。

(106)　　<u>如果</u>我<u>早</u>能和埃爾斯蒂爾一起到海堤上去，也會結識她們了。

(107)　　<u>如果</u>他<u>早</u>半個世紀出生的話，或許可以作為帝國當中忠誠且出色的軍人而終其生吧！#

(108)　　那個時候<u>如果早</u>知道，那麼我會穿著更體面一些然後向你求婚哪。

(109)　　<u>如果</u>他們倆人<u>早</u>半個世紀出生在這個世界上的話，列貝羅可能會是一個清高有能、對自由行星同盟極為貢獻的從政者。#

(110)　　斯梅茲<u>如果</u>能夠<u>早</u>點結婚的話就好了，至少朕還可以送他一點東西作紀念。

(111) <u>如果早</u>知道會這樣，一開始就好好談不就得了？何苦非得要犧牲這麼多的生命？

(112) <u>如果</u>戴高樂<u>早</u>一點有這種權威，邱吉爾在英國也有這種權威，那麼歐洲的歷史可能不是這樣，也可能不會有第二次世界大戰。

(113) <u>如果</u>她<u>早</u>一點給運輸隊的車夫和休付了工資，他們便會回家，把她單獨和艾希禮留在木料場中央那間的小小的正方形辦公室裡。

(114) <u>如果</u>我早點發現，就會<u>早</u>點開始尋求真相，

(115) <u>如果</u>我<u>早</u>知道外界是什麼樣子，我可能就沒膽子出來了。

(116) <u>如果</u>我<u>早</u>知道艾辛格的勢力已經如此坐大，或許我就不敢這麼狂妄地上戰場，

(117) <u>如果</u>我們在出發前對此地<u>早</u>有任何瞭解，現在就不會在這裡了，

(118) <u>如果</u>我<u>早</u>知道，真該躲開來才對。

(119) <u>如果</u>我<u>早</u>知道你們在後面，我絕不會讓你們稱心如意的。

(120) <u>如果</u>我<u>早</u>知道他把這裡搞成這樣，我會把我的背包塞到他喉嚨裡面！

(121) <u>如果</u>我早知道的話，我會<u>早</u>一點做。

(122) <u>如果早</u>知道你想去喀洛斯，我們可以一起去的。

(123) <u>如果</u>他們<u>早</u>騎進卡拉曼一個月，那歡迎的儀式將會大不相同。#

@：Conditionals in which the temporal period introduced by *zao*(早) is unspecified.
#：Conditionals in which the temporal period introduced by *zao*(早) is specific.

APPENDIX IV.

<div align="center">Questionnaire</div>

親愛的同學:

感謝你參加以下閱讀理解調查問卷。請將你認為正確的答案寫在答題紙上。在答題的過程中請只憑自己的第一感覺，而不要通過反復閱讀獲得答案。請回答每一個問題，不要留空白。

第一部分. 閱讀理解：句子（每題請只選擇一個答案。）

(1)　①如果我（指答卷人）在少體校打過籃球的話，中考的時候就可以加分了。
　　②如果海琳在少體校打過籃球的話，中考的時候就可以加分了。
　　如上述兩句話所述，"中考的時候加分"的可能性大小為：
　　a　　① ＞ ②
　　b　　① ＜ ②
　　c　　① ＝ ②
　　d　　無法判斷

(2) 沒有張老師的教誨就沒有海琳的進步。
　　你對以上這句話的理解是：
　　a　　海琳進步了。
　　b　　海琳沒有進步。
　　c　　不確定。

(3) 如果金抽真的偷了錢，那他就得進監獄。
　　你對以上這句話的理解是：
　　a　　他已經進監獄了。
　　b　　他沒有進監獄。
　　c　　不確定。

(4) 海琳是高一的學生，但如果她現在是高三的學生，她應該已經進入到高考前夜的緊張狀態中了。
　　你對以上這句話的理解是：
　　a.　海琳已經進入到高考前夜的緊張狀態。
　　b.　海琳尚未進入到高考前夜的緊張狀態。
　　c.　不確定。

(5) 如果有關部門早一兩個月就通報疫情，那麼死亡人數就不會超過 100 了。
　　你對以上這句話的理解是：

a 死亡人數超過了 100。

b 死亡人數未超過 100。

c 不確定。

(6) 如果他十五歲，_____。

將上面的句子補充完整，橫線上可以填入的是：

e. 他就應該上高一。

f. 他早就該上高一了。

g. 上述兩個選項皆可。

h. 上述兩個選項均不合適。

(7) 如果大家早相信泰坪，那麼就會在選班長時投他一票了。

a 大家在選班長的時候投了他一票。

b 大家在選班長的時候沒有投他一票。

c 不確定。

(8) 要是有電，_____。

將上面的句子補充完整，橫線上可以填入的是：

a 燈就亮了。

b 燈就會亮。

c 上述兩個選項皆可。

d 上述兩個選項均不合適。

(9) 如果剛才油罐爆炸了，一定會傷到路人。

你對以上這句話的理解是：

a 油罐爆炸傷到路人了。

b 油罐沒有爆炸，也沒有人受傷。

c 不確定。

(10) 如果不是應聘者蜂擁而至，公司中午就該收攤離開招聘會了。

a 公司中午離開招聘會了。

b 公司中午沒有離開招聘會。

c 不確定。

(11) 如果現在是冬天，泰坪一定會帶著他心愛的滑雪裝備去北海道。

結合現在你所處的季節，你對以上這句話的理解是：

a 泰坪現在不會去北海道滑雪。

b 泰坪現在會去北海道滑雪。

c 不確定。

(12) 如果明天太陽從西邊出來了，金抽就會變成善人。

你對以上這句話的理解是：

a 金抽會變成善人。

b 金抽不會變成善人。

c 不確定。

(13)　　假如哪天二加二等於五了，那時你下棋就能贏我了。

　　你對以上這句話的理解是：

　　a　　說話者認為聽話者有一天能贏他。

　　b　　說話者認為聽話者永遠也不可能贏他。

　　c　　不確定。

(14)　　如果泰坪複習了，考試時就能答出題目來。

　　你對以上這句話的理解是：

　　a　　他回答出來題目了。

　　b　　他沒有回答出題目。

　　c　　無法判斷。

(15)　　如果你下次比賽破紀錄，我就親手給你帶金牌。

　　你對以上這句話的理解是：

　　a　　說話者已經給聽話者帶了金牌。

　　b　　說話者尚未給聽話者帶金牌。

　　c　　不確定。

(16)　　李明要是想當老師，就報考師範學院了。

　　你對以上這句話的理解是：

　　a　　李明報考了師範學院。

　　b　　李明沒有報考師範學院。

　　c　　無法判斷。

(17)　　李明要是想當老師，就會報考師範學院。

　　你對以上這句話的理解是：

　　a　　李明報考了師範學院。

　　b　　李明沒有報考師範學院。

　　c　　無法判斷。

(18)　　如果泰坪昨天遇到了海琳，一定會把得獎的消息告訴她。

　　你對以上這句話的理解是：

　　a　　泰坪把得獎的消息告訴了海琳。

　　b　　泰坪沒有把得獎的消息告訴海琳。

　　c　　不確定。

(19)　　如果他昨天複習了，考試時就能答出題目來。

　　你對以上這句話的理解是：

　　a　　他回答出來題目了。

　　b　　他沒有回答出題目。

　　c　　無法判斷。

(20)　　如果尚文已經刺死了卓東來，也許反而沒有此時這麼平靜。

　　你對以上這句話的理解是：

　　a　　尚文此時很平靜。

b　　尚文此時並不平靜。

c　　不確定。

(21)　　要是海琳真的中了三千七百萬體彩，她就辭職了。

你對以上這句話的理解是：

a　　海琳已經辭職了。

b　　海琳沒有辭職。

c　　不確定。

(22)　　要是明晚沒有流星雨，你怎麼會上個週末去買望遠鏡呢?

你對以上這句話的理解是：

a　　聽話人上週末去買望遠鏡了。

b　　聽話人上週末沒有去買望遠鏡。

c　　不確定。

(23)　　小琳喜歡這本書，所以我沒將它送人。

和上述句子意思一樣的是：

a　　要不是小琳喜歡這本書，我早將它送人了。

b　　如果小琳喜歡這本書，我就不會將它送人。

c　　要是小琳喜歡這本書，我就不會將它送人。

d　　萬一小琳喜歡這本書，我是不會將它送人的。

(24)　　要不是總理幾次提到你，我今天不會對你那麼客氣。

和上述句子意思一樣的是：

a　　總理幾次提到了你，所以我今天才對你那麼客氣。

b　　總理幾次提到了你，所以我今天不對你那麼客氣。

c　　總理沒有提到過你，所以我今天才對你那麼客氣。

d　　總理沒有提到過你，所以我今天對你不客氣。

(25)　　如果李四昨天就遇到張三，而且張三也跟他講這樣的話，李四就不會寫早上那封愚蠢的信。

你對以上這句話的理解是：

a　　李四寫了那封信。

b　　李四沒有寫那封信。

c　　不確定。

(26)　　①萬一海琳想過平凡的日子，泰坪就會結束他的演藝生涯，轉而從商。

②如果海琳想過平凡的日子，泰坪就會結束他的演藝生涯，轉而從商。

③要是海琳想過平凡的日子，泰坪就會結束他的演藝生涯，轉而從商。

④要不是海琳想過平凡的日子，泰坪會結束他的演藝生涯，轉而從商嗎？

按照“海琳想過平凡的日子”可能性的大小，以上句子可以排列為：

a　　①>②>③>④

b　　②>①>③>④

c　　④>②=③>①

d　　①=②=③=④

(27)　　如果不是為了他母親,他是不會來的。

你對以上這句話的理解是：

a　　他來了。

b　　他沒來

c　　不確定。

(28)　　如果排隊的人不是很多，商店可以提早關門。

a　　商店可以提早關門。

b　　商店沒有提早關門。

c　　不確定。

(29)　①如果我（指答卷人）是億萬富翁，我就會給自己蓋一個狄斯奈樂園。

②如果海琳是億萬富翁，她就會給自己蓋一個狄斯奈樂園。

如上述兩句話所述，"給自己蓋一個狄斯奈樂園"的可能性大小為：

a　　① > ②

b　　① < ②

c　　① = ②

d　　無法判斷

(30)　　如果泰坪遇到海琳，一定會把得獎的消息告訴她。

你對以上這句話的理解是：

a　　泰坪已經把得獎的消息告訴了海琳。

b　　泰坪沒有把得獎的消息告訴海琳。

c　　不確定。

(31)　　①如果我（指答卷人）去了小豬羅志祥的演唱會，我一定會問他要簽名的。

②如果泰坪去了小豬羅志祥的演唱會，他一定會問他要簽名的。

如上述兩句話所述，"問羅志強要簽名"的可能性大小為：

a　　① > ②

b　　① < ②

c　　① = ②

d　　無法判斷

(32)　　泰坪要是當時來了，不就見著那個讓他朝思暮想的人了嗎？

你對以上這句話的理解是：

a　　泰坪見到那個讓他朝思暮想的人了。

b　　泰坪沒有見到那個讓他朝思暮想的人。

c　　不確定。

(33)　　要是海琳明天來，你不就見著她了嗎？

你對以上這句話的理解是：

    a   聽話人明天會見到她。

    b   聽話人明天不會見到她。

    c   不確定。

(34)   如果海琳再年輕十歲，可能就會明白這個道理。

    你對以上這句話的理解是：

    a   海琳明白了這個道理。

    b   海琳不明白這個道理。

    c   不確定。

第二部分. 閱讀理解：短文

一．人肉湯

    一個荷蘭探險家前往非洲中部探險。有一次，他偶然看見一群圍著火堆而坐的土人。這荷蘭探險家希望有所發現，便屏息靜氣地藏身於矮樹叢後細看。他看到那些土人把一個族人的屍體投入一大鍋沸水中。這鍋"人肉湯"煮沸後，他們便爭著分嘗。這探險家目睹一切，自然震驚不已。假如當時這探險家懂得那種土話，又沒有立刻跑掉的話，他就會知道那屍體原來是那族中一個不幸意外身亡的英雄。這探險家也會發現那些土人喝"人肉湯"是因為他們相信這樣才可以承襲那英雄的優點。要不是這探險家那時候不懂土話，而且立刻跑掉，他早就會知道那些土人事實上十分友善，並非如他想像中那麼殘忍和野蠻。

(35)請根據上文，指出文中的荷蘭探險家知道下列哪一項或者幾項有關那族土人的事情：

    ①那已身亡的土人是該族的英雄。

    ②那已身亡的土人不幸在意外中身亡。

    ③那些土人喝"人肉湯"是因為他們相信這樣才可以承襲那英雄的優點。

    ④那些土人事實上十分友善，並非如探險家想像中那麼殘忍和野蠻。

    ⑤上述任何一項均不正確。

(36)請簡單解釋作出上述選擇的理由。

二．畢爾的故事

    十八世紀時，有一位德國哲學家名叫畢爾。他很喜歡研究宇宙間的自然法則。那時候中國跟歐洲已有交通往來，中國的哲學著作也有一些流傳到歐洲，可是很少有翻成外文的。可惜畢爾不懂中文，假如他看得懂中文的話，他就會發現當時歐洲的哲學家在研究自然現象時，往往只研究個別的自然現象，而不著重各現象間的關係。而中國哲學家在研究自然現象時，則特別注重各現象間的關係。假如畢爾讀過中國哲學的話，他很可能會受到中國哲學家的影響。他也可能會融合中國和西方的哲學，創出一個新的哲學理論。這個理論不但著重個別的自然現象，也會強調各現象間的關係。這理論可能會補充當時西方哲學之不足，也可能會使德國，法國及荷

蘭的哲學成為一個更完整的理論體系。

(37)請根據上文，指出畢爾對西方哲學有下列哪一項或幾項貢獻：

①畢爾融合和中國和西方的哲學。

②畢爾使歐洲哲學家注意到各自然現象間的關係。

③畢爾使歐洲哲學成為一個更完整的理論體系。

④畢爾使西方的哲學更接近中國的科學。

⑤上述任何一項均非畢爾的貢獻。

(38)請簡單解釋作出上述選擇的理由。

++++++++++++++++++ 問卷結束。謝謝你的參與！++++++++++++++++++

APPENDIX V.

Results of the Survey

Q\A	1		2		3		4		5	
	Unit	Perc.	Unit	Perc.	Unit	Perc.	Unit	Perc.	Unit	Perc.
1	6	11.3%	7	13.2%	37	69.8%	3	5.7%	0	0%
2	52	98.1%	0	0%	1	1.9%	0	0%	0	0%
3	2	3.8%	42	79.2%	9	17.0%	0	0%	0	0%
4	0	0%	47	88.7%	6	11.3%	0	0%	0	0%
5	52	98.1%	0	0%	1	1.9%	0	0%	0	0%
6	30	56.6%	2	3.8%	10	18.9%	11	20.8%	0	0%
7	0	0%	49	92.5%	4	7.5%	0	0%	0	0%
8	4	7.5%	12	22.6%	35	66.0%	2	3.8%	0	0%
9	0	0%	52	98.1%	1	1.9%	0	0%	0	0%
10	2	3.8%	51	96.2%	0	0%	0	0%	0	0%
11	47	88.7%	1	1.9%	5	9.4%	0	0%	0	0%
12	0	0%	51	96.2%	2	3.8%	0	0%	0	0%
13	1	1.9%	52	98.1%	0	0%	0	0%	0	0%
14	0	0%	44	83.0%	9	17.0%	0	0%	0	0%
15	0	0%	52	98.1%	1	1.9%	0	0%	0	0%
16	6	11.3%	44	83.0%	3	5.7%	0	0%	0	0%
17	4	7.5%	27	50.9%	22	41.5%	0	0%	0	0%
18	0	0%	44	83.0%	9	17.0%	0	0%	0	0%
19	0	0%	41	77.4%	12	22.6%	0	0%	0	0%
20	40	75.5%	11	20.8%	2	3.8%	0	0%	0	0%
21	0	0%	48	90.6%	5	9.4%	0	0%	0	0%
22	53	100%	0	0%	0	0%	0	0%	0	0%
23	41	77.4%	6	11.3%	6	11.3%	0	0%	0	0%
24	53	100%	0	0%	0	0%	0	0%	0	0%
25	53	100%	0	0%	0	0%	0	0%	0	0%
26	2	3.8%	0	0%	44	83.0%	7	13.2%	0	0%
27	52	98.1%	0	0%	1	1.9%	0	0%	0	0%
28	8	15.1%	32	60.4%	13	24.5%	0	0%	0	0%
29	10	18.9%	5	9.4%	34	64.2%	4	7.5%	0	0%
30	1	1.9%	36	67.9%	16	30.2%	0	0%	0	0%

31	9	17.0%	8	15.1%	32	60.4%	4	7.5%	0	0%
32	0	0%	51	96.2%	2	3.8%	0	0%	0	0%
33	4	7.5%	2	3.8%	47	88.7%	0	0%	0	0%
34	0	0%	50	94.3%	3	5.7%	0	0%	0	0%
35	9	11.5%	7	9.0%	10	12.8%	10	12.8%	42	53.9%
36	0	0	0	0	0	0	0	0	53	100%