

Typological Stage of Counterfactuals in Chinese

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Abstract

Wu(1994) listed ten words as CFs' markers in Chinese, they are 早 (early), 了 (perfect/perfective marker), 要不是/要不然 (had it not been the case), 没(didn't), 就好了 (would have been great if only), 还以为(had thought), 原来应该(should have been), ...的话 (in the case), 真的 (really). However, according to our definitions, none of them are dedicated CFs markers but only CFE¹ markers except 要不是. Several observations can be summarized from these markers: (1)although they can be applied to deliver a counterfactual reading, they can never ensure a counterfactual reading; (2) the counterfactuality delivered by them can be easily cancelled by inserting another sentence following behind; (3)counterfactuality can be expressed in absense of these CFE markers.

1 Introduction about Counterfactual Research in Chinese

The issue of different treatments of counterfactuality in Chinese and other world languages was first proposed by Bloom(1981) who made an assumption that the lack of counterfactual expressions in Chinese is a significant cognitive consequence. To support his hypothesis, he made several experiments including asking contrary-to-fact questions in HongKong and Taiwan. Comrie(1986) holds the similar opinion by arguing that Chinese is among the languages which make no distinction in terms of hypotheticality, for instance, in Chinese, where 'Zhangsan he-le jiu, wojiu mata' can vary in interpretation from 'If Zhangsan has drunk wine, I will scold him', to 'If Zhangsan drank wine, I would scold him', and then to 'If Zhangsan had drunk wine, I would have scolded him.'

Wizerzbicka(1997) is skeptical about the accuracy of the lacking of counterfactual markings in Chinese, by illustrating:

¹ CFE markers (Counterfactuality Enhancing Markers) characterize the grammatical elements whose appearance increases but not ensure the chances of expressing counterfactuality.

(1) a. *Jiaru nashihou (in the past) x mei fasheng dehua, ye jiu meiyou y le.*
If X hadnot happened at that time, there would not be Y.

(Non-factual optional)

b. *Jiaru jianglai(in future) x bu fasheng de hua*
Jiu buhui you y.
If X does not happen, there won't be Y.

(Non-factual impossible)

The difference between the above two sentences involves the time adverbials (nashihou implies past reference and jianglai refers to the future). In addition, the modal form *buhui* implies a real possibility. Tien(1994) gives a similar discussion about the clearly distinguished CF conditional in Taiwanese Min by considering the following examples:

(2) a. *yi lae shizwun(past) wa na wu ji,*
wa ae twa yi
I will/would marry she/her.

(Non-factual optional)

b. *yihou / jionglai wa na wu ji,*
later / future I if have money
I will marry her.

(Non-factual impossible)

I agree that neither Chinese nor Taiwanese constituent an exception to the broad generalization that languages have "at least two-way distinction in terms of degrees of hypotheticality", but the complexity of counterfactual marking in Chinese has been underrated. For one thing, neither past tense nor the modal verb is sufficient to differentiate CFs from non-CFs in Chinese. The ambiguity of (2a) shows the insufficiency of the past tense as CF marking. And *buhui*(will not) is not limited to factual interpretation in Chinese as Wizerzbicka(1997) mentioned,

(3) *zao zhidao ni shi zheyang de ren,*
early know 2SG be this CLASS PTCL person,
wo jiu buhui jiagei ni.
1SG then NEG-MDL Marry for 2SG
If I had known that you were of this sort, I would not have married you.

For another thing, neither the past tense nor the modal verbs are necessary to distinguish the CFs in Chinese. CFs in Chinese can be expressed without any marking, like "Ruguo taiyang cong xibian chulai, wojiu jiagei ni." (If the sun rose from the west, I will marry you.)

Leaving aside for the time being the complex counterfactual markings in Chinese, the above evidence of Chinese CF conditionals can overthrow Bloom's assumption about the lacking of CFs in

Chinese fully well. Other criticisms by Au(1983), Liu(1985), Wu(1994), Yeh&Gentner(2005) also report similar performances between Chinese and English speakers in CF reasoning task. But how do we account for the different responses of speakers of Chinese and English to the hypothetical questions asked by Bloom? Wu(1989) argues that these different responses could be caused by different cultural values and communicative rules that constrain the use of counterfactuality in different social contexts. Wu(1989) further provides many salient linguistic devices- lexical item, stress and intonation- in Chinese for marking counterfactuality. Then it shifts our attention from whether Chinese has counterfactual expressions to whether Chinese has dedicated CF markers. It has been admitted by Chao(1968), Chen(1988), Wu(1989), Xing(1993), Jiang(2000), Su(2008), Yeh&Gentner(2005) and Feng&Li (2006) that Chinese CFs are based on an interaction between CF markers and other variables such as semantics and contexts. Ye and Gentner(2005) divided the CFs into “transparent and non-transparent”. The former can be marked through intentional violations of semantic knowledge, such as sentence “*If I you can buy a house, then I am the president of the USA*”. There are obvious limitations with markings at semantic or discourse level, and they are not in the interest of our research. For the non-transparent counterfactuals, it is a cross-language phenomenon to apply the fake temporal marker. Jiang(2000) claims that the fake temporal markers also work in Chinese,

(4) a. *dangchu(in the past) yaoshi zao ting ni yi ju hua, ye bu zhi jinri.*

If I had followed your advice at that time, I would not have been so bad today.

b. *zuotian yaoshi zao zhidao hui nong cheng zheyang, wo jiu hui duo daidian qian qu.*

If I had known it was this case yesterday, I would have brought more money.

Here, *zao*(early) is taken by Jiang(2000) as a fake past tense in that it can point to any day in the past which can be either *dangchu*(that time) or *zuotian*(yesterday). However, I am in the view that the implicit meaning of *zao* is lexically designated and it can never alter its function of indicating PAST, such as “*(*)mingtian (tomorrow) yaoshi(if-be) zao(early) zhidao(know)...*”. Compare (4) with the following CFs with fake tense marker,

(5) *Si Pierre partait demain, il arriverait là-bas*

If Pierre left.PST.IMP tomorrow he would arrive le lendemain

there the next.day

If Pierre left tomorrow, he would arrive there the next day. (French)

(6) a. *zuotian yaoshi xia yi chang yu,*

Yesterday if-be fall one CLASS rain,

zhuangjia jiu buhui gan si le.

crops then NEG-MDL dry die PTCL

If it had rained yesterday, the crops would not have died from drought.

b. *zuotian yaoshi xia guo yi chang yu,*

Yesterday if-be fall PTCL one CLASS rain,

Zhuangjia jiu buhui gan si le.

crops then NEG.MDL dry die PTCL

If it rained yesterday, the crops would not die from drought.

It has been argued by Chen(1988) and Jiang(2000) that (6b) conveys the factual interpretation of the events, and the coercion on the aspect marking in (6a) is a reflex of fake aspect in Chinese CFs. I am also of a different opinion in that (6b) does convey a non-factual interpretation, and even if aspect coercion is needed for marking CFs, it will never function as a fake aspect like:

(7) *Age fardaa mi-raft hafte-ye ba'd mi-resid*

if tomorrow DUR-go.PST week-EZ next DUR-arrive.PST

If he left tomorrow, he would arrive next week.

(Persian)

Here, the durative aspect is used to indicate the perfective. The alteration of the original function of tense and aspect does not occur in Chinese CFs, and we cannot conclude that Chinese has the fake temporal marker.

However, the highly frequent occurrence of *zao*, *le*(perfect/perfective marker), *yaobushi*(if-NEG-be), *yaoburan*(if-NEG-this case), *jiuhaole*(then good-PTL), *yiwei*(had thought), ...*dehua*(in that case) and *zhende*(really) in the Chinese CFs cannot be denied, for all of which Wu(1994) included as CF markers. Jiang (2000) rejected all of them on the logical ground that each form could potentially be used in non-counterfactual contexts. Feng&Li(2006) argues CF marker may not necessarily be consistent even in English. He further concluded that the temporal reference, the aspect marker and the lexicalized phrases account for 90% of the CFs in Chinese. However, we cannot easily take all these strategies as markers for CFs in Chinese. Wang(2012) takes these carefully by referring them as CF ingredients. But do all the CF ingredients work at the same level? Like what I talked about in this paper, CF markers and CFE markers need to be differentiated and CFs in Chinese are generally expressed through CFE markers. In other words, CFs in Chinese are not determined but reinforced by the appearance of the features which can be applied to enhance the hypotheticality i.e. CFE markers. The situation in Chinese can be explained by the theory of CFI-(Counterfactual Implicature) Principle (Ziegler,2000):

The CFI-Principle:

‘The strength of an implicature is directly proportional to the specificity conditions (information density) in which it is located.

Therefore, in the absence of the dedicated CF markers, the CFE markers like real past tense, objective negation (*mei*), first person pronoun, proximal pronouns, real perfect/perfective (*le*) in Chinese which are often associated with environments with high information-density function as the potential catalyst for the extraction of the counterfactual reading. The more of the features that are present, the greater probability it implies to express

counterfactuality. Therefore, the continuum nature of Comrie's description may correspond to variations in the number of features present in the sentences. And the cluster of features together may contribute to an overall optimum situation for the interpretation of counterfactual notions, like:

- (8) *ruguo wo(I) zuotian(yesterday) mei(did not) nadao zhe(this) zhang piao, wo jiu buneng(can not) qu kan yanchu le(perfect/perfective).*

If I had not got this ticket yesterday, I would not have been able to see the performance.

2 Counterfactuality Enhancing Markers

The difference between CF markers and CFE markers is reflected in their exclusiveness in marking CF sentences. If A can mark B exclusively, it means A is only used to mark B but nothing else. CF markers can mark counterfactuality exclusively, like counterfactual marking in Hua (Trans-New Guinea > Eastern Highlands),

- (9) *kori hu hine*
fear do.1 CTF.A

I would have run away/I almost ran away

(Haiman, 1980)

Whereas CFE markers can mark counterfactuality in a certain environment but not exclusively, the reflection of which will be found in its insufficiency of marking CFs. In Russian, the word for *if* is *esli*, which can generate open interpretation as well as the counterfactual reading, e.g.,

- (10) a. *Esli by oni naš li étu vodu,*
if SUBJ 3PL find.PFV.PST that water.ACC
oni byli by spaseny,
3PL be-PST SUBJ save.PASS

no jia somnevajus', č to oni ee naš li.

but 1SG doubt COMP 3PL find.PFV.PST

If they found(had found) that water, they would be (would have been) saved, but I doubt that they found(have found)it. (Non-factual optional)

- b. *Esli by ja ne na naš la jabloki,*
if SUBJ 1SG NEG any find.PFV.PST apples
ja by kupila gruš i.
1SG SUB buy.PFV.PST pears

If I hadn't got(didn't get) any apples, I would have bought(would buy) pears.

(Non-factual obligatory)

By comparing these two sentences, it could be observed that the appearance of negation marker (*ne*) in Russian increases the chances of expressing counterfactuality. However, we could not easily attribute it as a CF marker because it can still occur in non-CF environment. Although there are distinct features between CFE marker and CF marker, we cannot expect a clear-cut boundary. The essential difference between each other is the different degrees of hypotheticality contained in the markers. From a historical view, we will find a process of grammaticalization from CFE markers to CF markers. Not all the CFE markers meet the requirements of changing, but for those qualified ones, some may stay

at the continuum between CFE markers and CF markers, while others have already become dedicated CF makers. For convenience, some typical CFE markers will be chosen for discussion in the following passage.

2.1 Negation

Negation has a close relationship on the CF interpretation of a conditional. Wierzbicka(1997) realized the effect of negation on enhancing the hypotheticality. She even attributed the double negative CF conditionals as the hard core of the "counter-factual" category. It was further explained by her that it is easier for the common sense to accept that "facts" are positive rather than negative, that things that happen are more "real" than things that do not happen, and that our knowledge of things that have happened is more certain and reliable than the knowledge of things that haven't happened. It is well documented in many different languages that the distinction between the world of affirmative and negative sentence lies in that the negative sentences are normally connected with "irrealis", like in Nyulnyulan languages of Western Australia,

- (11) *arri i-li-jid-an bur-ung i-ngkudal*
NEG 3SG.NOM-IRR-go-PFV camp-all 3SG.NOM-
got.lost.

He didn't go to his camp; he got lost.

(McGregor, 1996)

In Chinese, negators are not regarded as grammatical contributors of counterfactuality by Jiang(2000) in that if an antecedent is introduced by negators, it always points to an event which already occurred. Negation of an already occurred event naturally generates CF interpretation. However, Wang(2012) argues that since no definite answer can be provided to prove that the use of negators will lead to a proposition containing a fact, or vice versa, it is reasonable to classify them as a CF grammatical ingredient. Likewise, negation can happen in either antecedent or consequent to enhance the hypotheticality,

- (12) a. *Ruguo ni gangcai(past) lai le zher,*
jiu neng kanjian zher de bihua le.
If you came (had come) here just now, you would see (have seen) the wall painting.

- b. *ruguo ni gangcai(past) mei(NEG) jiaozhu ta,*
ta xianzai jiu yijing zai xianchang le.
If you had not stopped him just now, he would have been at the site.

(12)a with double affirmative can be interpreted either as a CF or as a non-CF, while the general reading of (12)b is only a CF. However, both of them don't entail the counterfactuality, which can be cancelled by introducing an additional clause preceding them, like "我不知道你刚才有没有来这/叫住他, 但是..... (I don't know whether you were here / stopped him just now, but...)". However, the counterfactuality of a CF conditional with double negation can not easily be cancelled, like,

- (13) *ruguo zhongguo meiyou(NEG) guoqu sanshinian*
de gaigekai'fang, jiu buhui(NEG) you jinri de
huihuang.

Without the policy of reform and opening up in the past thirty years, China would not have had such wonderful performance.

The speaker surely knew that China had already practiced the policy when uttering this sentence. An introducing of an additional clause used to cancel the counterfactuality will seem odd here.

2.2 Objectivity

Wierzbicka(1997) argues that it is the domain of “what happens” rather than that of what you and I may want to do, which is the realm of “factuality” par excellence. Consequently, the hard core of “counterfactuality”, too, must be restricted to what happened (or didn’t happen) rather than uncertain intensions. She further listed examples in Russian and Polish, where the first or second person is more difficult to get a counterfactual reading as third person or non-human subjects.

(14) a. *Esli by X ne sluČilos’, Y by ne sluČilos’.*(Russian)

b. *Gdyby X sie stalto, Y by sit nie stalo.*(Polish)

If X had not happened, Y would have happened.

(Wierzbicka, 1997)

According to her, CF conditionals with a negative protasis as (14) does not necessarily have a counterfactual reading, but this case is only restricted to the first or second person. And if the third person or the non-human subjects appear, the sentence is forced to get a counterfactual reading. It can be explained in that first and second person action sentences are expected to behave differently in the respect of objectivity from “third person event sentences”, since the first or second person is always bound with subjective intensions.

Similar evidence can be found in Chinese negators-*mei*(没) and *bu*(不), with the former carrying stronger counterfactuality than the latter. The differences of the two have been discussed a lot by Li and Thompson(1981), Ting-chi Tang(1994) and Yuzhi Shi and Na Li(2000). Here, we only concern the differences reflected in objectivity between *mei*(没) and *bu*(不) which will lead to the different degrees of hypotheticality for CFs. *mei*(没) is an objective negation of an event, while *bu*(不) is a negation of the subjective desire. Examples from CCL (Center for Chinese Linguistics PKU) reveal a great priority of *mei*(没) used in CFs over *bu*(不).

(15) a. *Ruguo ni bu(NEG) yuanyi jiegei wo 5 kuai qian, na wo jiu zhineng buxingzhe huiqule.*

If you are not willing to lend me 5yuan, then I have to walk home.

b. *Ruguo ta meiyong(NEG) shoushang, yiding shi NBA zuihao de zhongfeng.*

If he had not got hurt, he must have been the best center in NBA.

(15)a merely presents a possible imagination of speaker with subjective emotions. While (15)b shows an objective negation of an occurred situation, which therefore creates a possible world for the hearer through the utterance.

Considering the above examples, we can draw a brief conclusion: hypotheticality does have some relations with objectivity. Third person and unanimated subjects in Russian and Polish blessed with objective meaning work like a CFE marker. And *mei*(没) shows greater tendency over *bu*(不) to be a CFE marker in Chinese. However, as a CFE marker, *mei*(没) does not necessarily guarantee the counterfactual reading of the sentence, as a CFE marker cannot mark the sentence exclusively. A counterfactual interpretation should depend on the antecedent of a conditional known to be false, whereas the objective negation of an event may go beyond our shared knowledge, like:

(16) *Ruguo 2 yinian qian(past) konglong meiyong(NEG) miejue, na xianzai diqiushang hai hui you konglong.*

If dinosaurs didn’t go extinct 2 hundred million years ago, then we still can find them on the earth now.

It is noteworthy that different languages may display different mechanisms in enhancing the hypotheticality. First or second person cannot be a CFE marker in Russian and Polish because of lacking objectivity, but it performs differently in other languages (which will be expound in the following passage). The role of Objectivity in enhancing the probability of counterfactual reading is also mentioned by Ziegeler(2000) who argues that the hypothesis of irrealis will be probable but not counterfactual, whereas the hypothesis of an objective known-fact will produce a counterfactual utterance.

2.3 Intimacy

As mentioned above, the interpretation of a conditional sentence is related to the personal pronouns used as subject. And the third person pronoun is more likely to appear in the CFs than the first/second person pronoun in Russian and Polish because of objectivity. But it is not always the case in other languages where the first/second person pronoun (especially the first person pronoun) bears a great priority to be a subject in CFs over others. Ziegeler(2000) argues that it is because the first or second persons are deictically closer to speaker’s immediate domain of reference, and in the case of the first person subjects, the subject and the speaker are the same. This intimacy, therefore, is in the best possible position to make a factually-based prediction about the past. She further provides two examples to prove her ideas,

(17) a. *If I had been there at the time, I would have seen the thief.*

b. *If he had been there at the time, he would have seen the thief.*

In (17)b, the cancellation of counterfactual reading can be realized by adding “so let’s go and ask him if he was there”. But in a normal circumstance, the counterfactuality of (17)a cannot be cancelled by introducing “but I didn’t know where I was at the time”, since I am always has the most intimate

knowledge of myself under normal circumstances. Similar evidence can also be found in Chinese,

- (18) a. *Ruguo ta(he) zuotian(past) qule xuexiao, jiu hui kanjian xuexiao menkou de diaoxiang.*
If he did go to school yesterday, he would see the statue at the school gate.'
- b. *Ruguo ni(you) zuotian qule xuexiao, jiu hui kanjian xuexiao menkou de diaoxiang.*
then will see school gate PTCL statue
If you (had gone) did go to school yesterday, you would (have seen) see the statue at the school gate.
- c. *Ruguo wo(I) zuotian qule xuexiao,*
jiu hui kanjian xuexiao menkou de diaoxiang.
If I had gone to school yesterday, I would have seen the statue at the school gate.

The third person pronoun in (18)a generates an open interpretation, since the speaker is not familiar with “his” situation and simply makes an open hypothesis. The second person pronoun, closer to the speaker’s domain, will generate an ambiguous interpretation, either open or counterfactual, depending on whether the event in antecedent has already been presupposed to be false. Whereas, the first person pronoun in (18)c will undoubtedly produce a CF reading. Unless suffering from a memory loss and this is another case, the speaker surely knows his own situation. Any hypothesis based on a known reality will deliver a counterfactual understanding.

The influence of intimacy on enhancing the hypotheticality can also be found in the demonstrative pronouns where the proximal (this, these) is more inclined to express a CF reading than the distal (that, those). Consider the following examples in Chinese,

- (19) a. *Yaoshi wo nabudao na(that) zhang piao,*
wo jiu bu neng qu kan yanchu le.
If I could(can) not get that ticket, I would(will) not go to see the performance.
- b. *Yaoshi wo nabudao zhe(this) zhang piao,*
wo jiu bu neng qu kan yanchu le.
If I could not get this ticket, I would not go to see the performance.

It is because that the proximal demonstrative pronoun pulls closer the distance between the event and the speaker, and the event in the antecedent is more likely to be presupposed to be false. In contrast, the event indicated by the distal demonstrative pronoun is relatively far in the speaker’s domain of reference, and less likely to be presupposed because of the remoteness. Therefore, (19)a with *na(that)* shows an ambiguous interpretation, either counterfactual or factual, while(19)b with *zhe(this)* creates a higher level of counterfactuality and can only be understood counterfactually.

The effect of intimacy can be further proved by the differences between the definite nouns and the indefinite nouns. Compare the following example with (19)a,b,

- c. *Yaoshi wo nabudao piao(indefinite),*
wo jiu bu neng qu kan yanchu le.
If I cannot get ticket, I will not go to see the performance.

2.4TAM Features

The information encoded in the verbal categories-tense, aspect and mood/modality (TAM)- may be helpful in enhancing the possibility of expressing Counterfactuals. We put them together both because they interact with each other in various ways in the morpho-syntax, semantics and pragmatics and because for some languages there may not be clearly differentiated categories of these three. For instance, tense and aspect cannot be clearly distinguished in many languages, like in Spanish and Modern Greek, the imperfective aspect will be conflated with the past tense in a form traditionally called imperfect. It is also the same case in analytic languages like Chinese where aspect, lexical information and modal verbs work together to form the temporal location. Aspectual viewpoints are conveyed in Chinese by *le(了)*, *guo(过)*, *zai(在)*, *zhe(着)* or adverbs like *changchang(常常)*, *(yijing)已经* or zero marked bare sentence. Lexicons like past/future-oriented verbs-*huiyi(回忆)* and *jihua(计划)*, modal verbs-*hui(会)*, *yao(要)* and *jiang(将)*, connective adverbs-*yihou(以后)*, *jiu(就)* and *zao(早)* all join together to help realize the temporal reference in Chinese. However, we cannot deny the theoretically ideal distinction of TAM, and there does exist many languages with separate grammatical markers for TAM.

2.4.1 Tense

It is widely believed and well documented that past tense is inextricably related to crosslinguistic notions of high hypotheticality. Presumably, it is because one should have great certainty about the past event than the future event, so that a past situation that is nonfactual will probably be hypothetical enough to be counterfactual, whereas a future situation that is nonfactual is quite likely to be just left open (Comrie,1986). Some linguists relate the past tense with high hypotheticality by proposing that “past” simply denotes remoteness, either temporal or modal (Steele,1975; Iatridou,2000; Ritter and Wiltschko,2010). It is the metaphorical device from spatial and temporal distance/proximity to abstract conceptual or cognitive distance/proximity that relates temporal distance with modal distance (Fleischman, 1989). However, we cannot easily attribute past tense as a CF marker as real past tense cannot signal unreality exclusively like fake past, e.g. in Spanish,

- (20) a. *Si(es verdad que) habian llegado antes de que eso pasara,*
If arrive-3rd-PL-PST.PF-IND before of that happen-3rd-SG-PST-IMPF-SUBJ
no nos contaron nada.
not us tell-3rd-PL-PST-IND nothing
If (it's true that) they had arrived before it happened, they didn't say anything to us about it.(Factual)
- b. *Si Maria hubiera llegado ayer,*
if Maria arrive-3rd-SG-PST+PF-SUBJ
yesterday
se habria llevado un buen susto.

Herself carry-3rd-SG-COND+PF a good night
If Mary had arrived yesterday, she would have got
a shock.

- c. *Si Maria hubiera estado viviendo aquí ahora,*
if Maria live-3rd-SG-PST+PF+PROG-SUBJ here
now
habría conseguido ese trabajo.
Obtain-3rd-SG-COND+PF that job
If Mary had been living here now, she would have
got that job.

(Tynan&Lavin, 1997)

- d. *Si los auditors hubieran venido mañana,*
if the auditors come-3rd-PL-PAST+PF-SUBJ
tomorrow
habrían encontrado los libros en regla.
Find-3rd-PL-COND+PF the books in rule
If the auditors had come tomorrow, they would
have found the books in perfect order

(Bennett, 1988)

The degree of hypotheticality contained in real past in (20)a does not reach the standard of expressing counterfactual. Considering its contribution on enhancing the hypotheticality, it may be more reasonable to classify them as CFE markers. However, it is not the case for the fake past which can be applied indiscriminately in sentences with various temporal references like (20)b,c,d.

Past tense labeled with real semantic values like (20)a may not necessarily occur in counterfactual environment, like in Chinese:

- (21) *Yaoshi ta zuotian(past) meiyou(NEG) guandeng,*
na xianzai jiaoshili de deng yiding hai liangzhe.
If he did not turn off the light yesterday, the light
must be on till now in classroom. (Factual)

But considering the high frequency of real past tense in CFs, we cannot ignore the contribution of real past tenses to CFs. It may be better to term the real past tense as a CFE marker, as it really works to enhance the probability of expressing CFs.

2.4.2 Aspect: Perfect and Perfective

Like past tense, perfect/perfective can be used to locate a knowable domain. From this perspective, both perfect and perfective aspect can play the same role in enhancing the probability of expressing CFs as past tense. For example, in Welsh, according to Jones (2010), the perfect aspect has a temporal function by locating a situation in anterior time from the standpoint of reference time or, in terms of a related explanation, it provides a retrospective view of a situation from the standpoint of a reference time. And the perfect aspect with tenses other than past is problematic in Welsh,

- (22) a. **geith hi fod wedi aros.*
May.PRES.3SG she be PF stay
She can/may=permission have stayed.
 b. **all o fod weidi pasio 'r lori.*
Can.PRES.3SG he be PF pass the lorry
He can have passed the lorry.

(Jones, 2010)

The appearance of genuine perfect may enhance the degree of hypotheticality, but cannot ensure a counterfactual reading, like in Old Icelandic languages:

- (23) *Pá grunaði Vani at Æsir mundi hafa falsat Pái*
mannaskiptinu
Then the Vanir suspected that the Æsir must have
played them false in exchange of men.

(Molencki, 1999)

Perfective aspect is also claimed to have equal temporal function of past tense in Nootka, where past tense can be substituted by perfective aspect in expressing the CFs, like:

- (24) *wa '= al= we' in Kwatjat aqi-s=qu:=s naq-(y)u al*
say=TEMP=QT Kwatjat what-do=COND=1SG see-
perceive.PFV
Kwatjat said, "How could I have seen him?"

(Davidson, 2002)

Likewise, the information carried by real perfective aspect may enhance the hypotheticality in a sense, but it can never encode counterfactuality before it evolves into a dedicated marker with no aspectual constraints. For example, in Chinese, perfective/perfect marker *le(了)* has been taken as an important grammatical constituent by Chen(1988), (1994), Jiang(2000), Yeh&Gentner(2005), Feng(2006) and Wang(2012), however it cannot ensure a counterfactual interpretation when delivering a perfective/perfect meaning, like:

- (25) *Ruguo ni xinli yijing you bieren le(PFV), wo jiu*
tuichu.
If you have already loved someone else, I will exit.

It would be better to term the real perfect/perfective aspect in Chinese as a CFE marker rather than a CF marker.

2.5 Other evidence

A cluster of CFE markers, as listed above, all contribute to an overall optimum situation for expressing hypothetical events, and the more CFE markers that are present in the sentence, the higher degree of hypotheticality implied, with counterfactuality being obtainable as an inference or implicature deriving from the highest level of hypotheticality (Comrie, 1986). Therefore, Comrie's theory of "continuum of hypotheticality" may be controlled by the choices of CFE markers in utterance. Some of the main CFE markers have been studied so far in detail with other minor features which can also be added to the cluster being left undiscussed.

Some adverbials have also been argued to contribute the hypotheticality, like *zhende(真的)*, *zao(早)* in Chinese. According to Feng&Li (2006), 10% of sentences marked by *zhende(真的)* in the sample will produce a counterfactual response and 83% for *zao(早)*.

zhende(真的) means *really* in English, which can enhance the hypotheticality level by introducing an unexpected event which works to increase the distance between the possible world and the reality. However, it is not restricted to the counterfactual interpretation, like:

- (26) *Ruguo ta zhende(really) toule qian, iudei jin*
jianyu.

Understanding I: If he had stolen the money, he would have been sent to the prison.

Understanding II: If he really has stolen the money, he will be sent to the prison.

Zao(早) means *early* in English, which can be applied to detach the possible world from the reality world by indicating a remote past. However, if co-occurred with a future tense, the “detach” function of Zao(早) will disappear, like:

(27) a. *Ruguo zao(early) zhidao jintian bu shangban, wo jiu buyong zheme zaoqi le.*

if early know today NEG work 1SG then NEG.need so early getup PTCL

If I had known I don't need to work today earlier, I would not have got up so early.

b. *Ruguo ni mingtian neng zao xiaban, jiu bang wo dai dian cai.*

If 2SG tomorrow can early get-off work then help 1SG bring some grocery

If you could get off work early tomorrow, then help me bring some groceries.

3 Typology of Languages with Counterfactual Expressions

In the languages of the world, one can come across two different major marking strategies in expressing CFs. One of them is to apply grammatical ingredients with their genuine meaning to make a hypothesis towards known fact. These grammatical elements are used to enhance the hypothetical effect of the sentence, therefore are attributed as CFE markers in our paper. CFE markers are commonly applied in many languages even in the so-called non-counterfactual reasoning languages like Chinese. The counterfactual sense delivered by the HE markers emerges as implicature, which can be easily cancelled. In the other type, the counterfactuality is coded by the marker (CF marker), and this is further located in time. It should, however, be noted that through language evolution, the counterfactual meaning implicated by CFE markers may be conventionalized and gradually encoded in the markers. And this leads to cross-functional uses of these grammatical elements as dedicated CF markers in marking CFs. Through the history of languages, the strive for prevailing the conventionalized implicature of grammatical ingredients always competes with their restrictions of original functions. And this abrupt shift in the function may not be achieved in languages where grammatical information is not encoded by special morphemes. For example in Chinese, past tense is expressed by the joint forces of lexical items, perfective/perfect marker *le*(了), and other adverbials, therefore the pragmatic implicature of counterfactual meaning from those various combinations of elements may be more difficult to be strengthened and conventionalized than from a special dedicated morpheme encoding the past inflection like *-ed* in English. The development of a CFE marker to

a CF marker, in line with the expansion of its domain of use, will be perfectly displayed by some languages with verbal inflections like Indo-European languages. However, this represents only a part of the life cycle of counterfactual marking for the relaxation of counterfactuality may be brought by the prevailing use of CF markers, which will lead to a renewal evolution from CFE marker to CF marker. The life cycle of counterfactual marking can be depicted as follows:

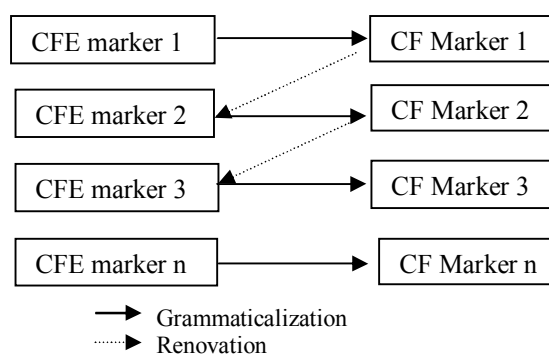


Figure 1 The Life Cycle of the Counterfactual Marking

During the language evolution, some languages may have gone through many layers of CF markers. Like English, at least three layers of CF marker-past tense, perfect, modal(would) have been formed. And the following passage will classify the world languages according to the number of CF layers.

3.1 CF₀ languages

(28) Australian>Western Nyulnyulan >Bardi

a. *Janinmarr ngalalabanjirrin miinybal*
bird sp.-SEMBL 1-UNR-have-CONT/PAST=3MIN.FOC.IO wing

'I wish I had wings like a janin bird's [because then I would fly to see my wife, but I don't]'

b. *gaadiliny nga-l-arli-n laalboo-yoon*
monkey.fish 1.MIN.NOM-UNR-eat-PRS earth.over-ABL

I would like to eat the monkey fish from an earth oven.

c. *Boowanim oolarrarlagoorr.*
ant-ERG 3-UNR-AUG-bite/eat-FUT=2AUG.DO
The ants might bite you.

(Bowern, 2004)

(29) Australian>Western Nyulnyulan>Nyulnyul

a. *Nga-li-jal-an-karr-ji kalb*
1:MIN:NOM-UNR-see-PST-SUBJ-2:MIN:ACC up
nga-li-m-an-ji mudikard-uk.
1:MIN:NOM-UNR-put-PST-2:MIN:ACC car-LOC

If I had seen you, I'd have picked you up in the car.

b. *Mi-li-jid-ikarr kinyingk-ung bur i-li-rr-ar-juj.*
2:MIN:NOM-UNR-go-SUBJ this-all
camp 3:NOM-UNR-AUG-spear-2:MIN:NOM

If you go into that country, they might spear you.

(McGregor & Wagner, 2006)

The Nyulnyulan languages show a bipartite past/non-past division or tripartite past/present/future division contrast in expressing irrealis. Counterfactuality, which is undoubtedly expressed by past irrealis in these languages, is not shared by

sentences with all temporal references. Sentences with present and future references have no way to mark CFs in absence of the fake past and thus could only be interpreted hypothetically but not counterfactually, like (28)b,c and (29)b. Our argument is that although a genuine past tense can co-work with mood category to express counterfactuality, it can never ensure a counterfactual reading. And a language with only genuine temporal marking stays only at the very initial stage of counterfactual expression, normally restricted in the past reference. From above languages with genuine past tenses but no dedicated CF markers, at least some commonness can be concluded: Counterfactuality is expressed (1) through pragmatic implicature rather than morphosyntactic entailment; (2) restrictedly on sentences with past time reference; (3) most frequently with the co-work of modals.

3.2 CF_{1/2} languages

CF $\frac{1}{2}$ Languages refer to the languages where there are some dedicated CF modals to mark the counterfactuality regardless of the time line, but still with some restrictions. Different from CF₀ languages, counterfactual meaning is not gained through pragmatic inference from past time, neither will it be cancelled by an additional clause.

(30) Sino-Tibetan > Chinese > Mandarin

Yaobushi ni mingtian wanshang yao qu meiguo,
If-not-be you tomorrow night will go America
women mingwan jiu keyi yiqi chifan le.
we tomorrow then can together have-dinner PTCL
If you weren't going to America, we would have dinner
together tomorrow night.

Different from purely hypothetical conjunction *ruguo*, *yaobushi* in Chinese cannot appear in non-counterfactual environments. And the unambiguous counterfactual nature of these sentences regardless of temporal reference is uniquely determined by the *Yaobushi*, without any contribution from aspect or tense morphology. But the counterfactual expression is only restricted to the negative sentences.

(31) Austronesian > Meso-Philippine > Tagalog

Kundi napakalayo ng Maynila, papag-aaralin ko sana siya roon.
If-not-that very-far Case Manila cause-study I SANA
him there.
If Manila weren't so far away, I'd send him to study
there.

(Nevins, 2002)

Conjunction *kung...sana* in Tagalog can express counterfactuality with no exception, but it has to be combined with the negation particle *hindi*, surfacing as *kundi...sana* (Schacter & Otnes, 1983). Likewise, Tagalog has a dedicated CF marker but it is also restricted to the negative sentences.

3.3 CF₁ languages

If a language has only one layer of CF marker, it must be the mood category including the irrealis marker, imaginative marker or unreal marker and so on. Different from the above languages, the mood category can mark the counterfactual without any restrictions.

(32) Indo-European > Slavic > Slovenian

- a. *Da imam, bi ti posodil.*
that have-1.sg.pres would to-you lend-sg.mac
If I had it, I would lend it to you.
b. *Da je bilo deževalo, ne bi bili Sli ven.*
that is be-part-3sg rain-part.3.sg not would be-part-pl go-part-pl out
If it had rained, we wouldn't have gone out.

da in Slovenian is applied to mark CFs even in the non-past environment, like (32)a.

(33) Afro-Asiatic > Semitic > Modern Hebrew

- a. *Ilu hu hayah tokeach et ha trufah, hu hayah mevri.*
CF he had taken dir-obj the medicine he would-be healthy
If he had taken the medicine, he would have been healthy.
b. *Ilu hu lakach et ha trufah, hu hayah mevri.*
CF he take.PST dir-obj. the medicine he would-be healthy
If he took the medicine, he would be healthy.

In Modern Hebrew, *Ilu* can mark CFs even in the non-past contexts like (33)b while *Im* can only indicate the past CFs. According to our definition discussed above, the former should be classified as a CF modal with the latter being a CFE modal.

3.4 CF₂ languages

I. Fake Past+ Fake Imperfective

(34) Niger-Congo > Benue-Congo > Bantoid > Zulu

- a. [ukuba *be- ngi- phuma manje*] *be- ngi- zo- fika kusasa*
if PAST.IMPF-1SG-leave now PAST.IMPF- 1SG-FUT-arrive tomorrow
If I left now, I would arrive tomorrow.
b. [ukuba *be- ngi- thimul- ile*] *be- ngi- zo- dinga ithishi*
if PAST.IMPF-1SG-sneeze-PFV PAST.IMPF-1SG-FUT-need 5tissue
If I had sneezed, I would have needed a tissue.

(Halpert & Karawani, 2012)

II. Fake Past+ Fake Perfective

(35) Afro-Asiatic > Semitic > Arabic (Palestinian)

- a. [iza *filef hala?*] *kaan b-iwsal sal wa?t la l-muħaadara*
if leave.PAST.PFV now, be, PAST.PFV B-arrive.IMPF on the-time for the-lecture
If he left now, he would arrive on time for the lecture.
b. [iza *kanno b-yitlaf bakkeer kul yom,*] *kaan b-iwsal sal l-wa?t la l-muħadaraat*
if be.PAST.PFV B-leave.IMPF early every day, be.PAST.PFV B-arrive.IMPF on the-time to the-lectures
If he were in the habit of leaving early, he would arrive to the lectures on time.

(Iatridou, 2009)

III. CF modals+ Fake Past

- (36) a. *Esli by Džon umer, my poxoroni-l-l by ego na*
if SUBJ John die.PFV.PST we bury.PFV-PST-PL SUBJ he.ACC on gor-e.mountain-LOC
If John died, we would bury him on the mountain.
b. *Esli by Džon umira-l, s nim by-l by doctor.*
if SUBJ John die.IMPF-PST with he.INSTR be-PST SUBJ doctor
If John were dying, the doctor would be with him.

(Halpert & Karawani, 2012)

3.5 CF₃ languages

As its name implies, CF₃ Languages refer to the languages with 3 layers of CF markers. According to

diachronic data, CF conditionals in English have experienced 3 layers of development, i.e., fake past/fake perfect/would.

(37) Indo-European >Germanic >English

a. *He noere na oelmihtig, gif him oenig gefadung earfoðe woere.*

he not-were(SUBJ) no almighty if him any order difficult were(SUBJ)

He would not be almighty if any order were difficult for him to maintain

(ÆDT 80 Early 11 th c.)

Fake Past combined with subjunctive mood was applied in old and middle English to mark CFs. Then perfect gradually entered into the CF conditionals in 13th century, like:

b. *War mi hare schorn, I war noght þan stranger þan a-noþer man. Were my hair shorn I were not then stronger than another man*

If my hair were shorn, I wouldn't be stronger than anybody else.

(Cursor Mundi 7211, 1340)

It was not until mid-fourteenth century that the bleached modal (wolde-would) occurred in the CF conditionals,

c. *For had he knowen hit biforn A childe of a for had he known it before a childe of a*

mayden born Wolde he neuer haue zyuen to maiden born would he never have given to

rede þat iesu crist shulde haue ben dede advice that Jesus Christ should have been dead

For if he had known before about a child born of a virgin, he would never have suggested that Jesus Christ should die.

(Trinity MS Cursor Mundi, 10787, c1400)

Therefore, in the modern English, CF conditionals are marked through 3 layers of CF markers, like:

d. *If he had not come here, this would not have happened.*

PF.PAST MOD

Similar evidence can be found in other Indo-European languages, like

(38) Indo-European >Romance >French

Si Pierre partait demain, il arriverait là-bas le lendemain

If Pierre left.PAST.IMPF tomorrow he MOD arrive there the next.day

If Pierre left tomorrow, he would arrive there the next day.

(Halpert & Karawani, 2012)

4 Implications

Wu(1994) listed ten words as CFs' markers in Chinese, they are 早(early), 了(perfect/perfective marker), 要不是/要不然(had it not been the case), 没(didn't), 就好了(would have been great if only), 还以为(had thought), 原来应该(should have been), ...的话(in the case), 真的(really). However, according to our definitions, none of them are dedicated CFs markers but only CFE markers except 要不是. Several observations can be found from these markers: (1)although they can be applied to deliver a counterfactual reading, they can never ensure a

counterfactual reading; (2) the counterfactuality delivered by them can be easily cancelled by inserting another sentence behind; (3)counterfactuality can be expressed in absence of the CFE markers.

According to Dahl(1997), the life cycle of the CF markers is a repeated evolution from CFE markers to CF markers. At the first stage in that the markers are restrained to past time reference (a),imply counterfactuality in the strict sense (dependence on a condition known to be false)(b), are optional(c). Then, the constraints such as the temporal condition on its use would be gradually relaxed, like in English "If he had been alive next year, he would have been 200 years old." The counterfactuality constraint will be relaxed once the construction has become possible with non-past reference. Davies(1979) offers the following sentences as an apparent example of a non-counterfactual use of the "if pluperfect+would" constructions: If John had been at the scene of the crime at the time when the murder was committed, Mary would have seen him leaving. So we must get hold of her to find out if she didn't see him. If the counterfactuality cannot be sufficiently expressed, a new cycle from CFE markers to CF markers starts again from the beginning. Therefore, in some languages, CFs are expressed through many layers of CF markers.

The life cycle of CFs' markers nicely shows some potential language universals in that counterfactual thinking is shared by the world languages. However, the development of the CFs' markers is subject to the characteristics of the languages. Chinese, lacking of inflectional morphemes, shows many restrictions in forming a CF marker, therefore is less developed than other inflectional languages in counterfactual expressions.

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