COHERENCE VIA COLLABORATION:
A STUDY OF CHINESE CAUSAL CONNECTIVES

Hsin-yun, Hsieh

Institute of Linguistics
National Taiwan University, Taipei, Taiwan, R.O.C.
Email: r6142001@ms.cc.ntu.edu.tw

ABSTRACT

This paper discusses the discourse behavior of Chinese causal connectives *yinwei* "because" and *suoyi* "so" from the perspective of grammaticalization, and claims that the underlying motivation for such is coherence, which involves pragmatic and cognitive interpretation. We claim that the majority of *yinwei* and *suoyi* are used pragmatically, and they are grammaticalized. This grammaticalization of discourse connectives is motivated by "collaboration." This paper explicitly identifies the semantic and pragmatic functions of *yinwei* and *suoyi*. Our findings support that conversation is a collaborative process, and show that interlocutors collaborate not only on phrasal or sentential level, but on discourse-level as well.

1. Introduction

Pragmatic approaches to connectives are prevalent in the linguistic literature [2][13][15]. We believe that Chinese causal connectives *yinwei* "because" and *suoyi* "so" perform pragmatic functions in discourse, and are involved in the maintenance of coherence. The usage of causal connectives deserves investigation, and those pragmatic functions of discourse connectives also need further classification.

Our first hypothesis is that *yinwei* and *suoyi* are grammaticalized and used pragmatically. We suggest that connectives are often used to achieve discourse coherence. Semantically, *yinwei* and *suoyi* convey causal relation, but besides semantic function, they also perform pragmatic functions of coherence. That is, one can use *yinwei* and *suoyi* to link two clauses or discourse units that have no causal relationship. This paper will also demonstrate that discourse connectives play an important role in the turn-taking behavior. Interlocutors use connectives to take, yield or hold one's turn. Our second hypothesis is that this grammaticalization of discourse connectives is motivated by "collaboration." This paper investigates the collaboration on discourse coherence via the use of connectives, and aims to claim that collaboration occurs on discourse-level. It is conversants' intention to collaborate that results in those pragmatic functions of connectives, and then the grammaticalization. We examine Chinese causal connectives, and discuss their collaborative usage in terms of form and type of discourse.

2. Literature Review

2.1 Discourse connectives and coherence

Kurdish connective *vêca* "so," French connective *parce que* "because," and English connective *so* and *because* have been discussed [2][13][15]. These discourse connectives have more than one uses in conversations, and the difference between their semantic and pragmatic functions is also recognized. But their pragmatic functions need further investigation and classification. Chinese causal connectives *yinwei* and *suoyi* has also been investigated [16]. Some discourse functions are mentioned, but the usage is not observed in depth. Some causal clause extensions to others' turns are noticed, but is not discussed further.

Coherence-based approach to discourse is argued not to be an adequate framework for the analysis of discourse connectives [13][15], but coherence should not be defined so narrowly. Though coherence is a semantic concept when it was first used, it can involve pragmatic and cognitive notions under a broader definition [14]. Coherence can be defined from the perspective of processing [1], and be treated as a cognitive phenomenon in the mind [8].

2.2 Collaboration

Coates [6] holds that when multiple interlocutors talk, "often their contributions relate back to an earlier contribution they had made, rather than to a contiguous contribution from another speaker." But from the perspective of collaboration, this traditional point-of-view is not an adequate description of conversation. Collaboration is first discussed on NP-level [3]. Then, the discussion of collaboration is augmented to sentence-level [4]. Continuation is also mentioned [17], where the structure of the prior turn is potentially complete, but another participant elects to build onto that sentence frame in a subsequent turn. Thus, continuation indicates the discourse-level collaboration; however, it is not examined in depth.

3. Data & Methodology

The corpus comprises over 2 hours of two-party conversational discourse, including 49'01" of face-to-face natural conversation and 78'09" of radio interview. All data were divided into intonation units and transcribed under the convention of Du Bois et al. [7]. In this study, 8104 intonation units were observed.

Yinwei "because" and *suoyi* "so" are used as a pair, conveying the semantic relation of causality. The typical form of the pair is "*yinwei... suoyi...* " In this case, we treat *yinwei* as preposing in the pair and *suoyi* as postposing. Throughout this paper, we use the term "prepose" and "postpose" to refer to the position of *yinwei* and *suoyi*. According to most grammar books of Chinese (ex.[12]), *yinwei* and *suoyi* occur as a pair with a preposing *yinwei* and a postposing *suoyi*. But in conversations, *yinwei* and *suoyi* can occur independently, and the positions of *yinwei* and *suoyi* are not fixed. In our data, we recognize six types of causal connective pairs, and each pair of *yinwei* and *suoyi* was counted as one token:

A.	*yinwei... suoyi...*	C.	$\emptyset$ *... yinwei...*	E.	*suoyi...* $\emptyset$
B.	$\emptyset$ *... suoyi...*	D.	*yinwei...* $\emptyset$	F.	*suoyi... yinwei*

4. Findings

4.1 Classification

That connectives have both semantic and pragmatic meaning is not a new idea [9]. The pragmatic usage can be further classified according to their functions. Besides, the turn-taking behavior is closely related to discourse connectives, and can be a parameter of further classification of pragmatic usage, too.

4.1.1 Semantic function

Semantically, *yinwei* and *suoyi* introduce a cause or a consequence both in local or global scope [15]. While the local relation is between two adjacent clauses, the global relation is between a clause and a large discourse unit or two discourse units.

(1) <dessert>

78.	..	keshi ta hui [zhuang zai] nali.
79. B:		[unh].
80. A: ..		(H)ta yi yao,
81.	..	oh(Hx)@<@ tongtong dou shi naiyou @>
82.	..	<@XX dou shi naiyou @>,
83.	...	ta jiu /ra=/,
84.	..	hen exin @@, ⇨ (78-84) consequence
85.	...	<@ ranhou jiu @>,
86.	..	<@ zhende @>,
⇨ 87.	..	<@ *yinwei* [nage xingzhuang ... duiya @>], ⇨ cause

"A: But it will fill in (the blanks of the waffle). As he bit, he found that it was all butter, and he just felt disgusting. It's because of the shape."

4.1.2 Pragmatic function

Observing the data, we find that *yinwei* and *suoyi* perform a variety of pragmatic functions. One

single token may perform more than two kinds of pragmatic functions.

4.1.2.1 Further Explanation:

The connective may serve to explain, support, elaborate or conclude prior utterances.

(2) <composing>

217.	..	wo de gexing bijiao bu shihe la.\	
⇨ 218.	..	*yinwei* wo juede wo hui,_	⇨ explanation
219.	...	zai tai shang hen jinzhang,_	

"My personality is not very suitable, because I think I will be very nervous on the stage".

(3) <CD>

334.	..	zhenzheng de zai luyin de guocheng,_	
335.		shibushi hen tongku de.\	
⇨ 336.		*yinwei* ni shuo na difang [henxiao].\	⇨ support (for the uttering of IU 334-335)

"Is the process of recording very painful? Because you said that place was very small."

(4) <CD>

81.	...	wanquan shi yi ge=	
82.	...	shushi la.\	
⇨ 83.	..	[*yinwei* wo] na dao de shihou yijing--	⇨ elaboration
84. A:		[m hum].\	
85. B:	...	qi le hen duo ci.\	

"B: It's totally a mistake, because since I got it, I have been angry for many times."

(5) <fashion>

238.	...	ta juede,_
239.	...	yao yong mingren lai daidong liuxing.\
240.	..	[lai]--
241.A:		[umhum umhum].\
242.B:	...	lai chengli yi ge xingxiang.\
243.	..	ta- ta shi yi ge--
⇨ 244.	...	*suoyi* ta-- ⇨ conclusion
245.	..	ta yongyuan dou shi zou zai,_
246.	..	renjia hen qianmian.\

" B: He thought that the fashion should be lead by famous people, and thus to establish an image. He was a... So he always walked much beyond others."

4.1.2.2 Topic Initiator:

The connective may serve to start a new discourse topic.

(6) <friends>

266.A:	(0)	ranhou zai zhege,_	
267.	..	taoban shangmian lai zuohua.\	
268.B:	..	dui.\	
⇨ 269.A:	..	oh *suoyi* zhege,_	⇨ Topic Initiator
270.	..	laoshi suo yong de zhege <F you F> oh.\	
271.	..	gen bieren dou buyiyang.\	

"A: And then paint on the clay board.
B: Yes.
A: Oh, so the glaze you use is different from others'."

4.1.2.3 Floor Holding:

The connective serves to gain time and hold the floor.

(7) <book>
    215.   ..   keneng hui you bu--
    216.   ..   buyiyang hoh.\
    217.   ...   na,_
⇨ 218.   ..   *suoyi,_*   ⇨ Floor Holding
    219.   ..   uh=uh zhege=
    220.   ..   uh zhe liang ban shu ne,_

"Maybe there will be some difference, so, uh, when it comes to these two books..."

4.1.2.4 Floor Taking:

The connective serves to take over the floor from the other interlocutor.

(8) <noel>
    207.   ..   *yinwei* tamen shi ba ta (/a/) ^bing zai nage,_
    208.   ..   lengdong[gui li<@ mian @>@].\
⇨ 209. B: [*suoyi* chang de chulai],_   ⇨ Floor Taking
    210.   ..   limian yizhi chi dao bing.\

"A: Because they put it in the refrigerator.
B: So as you tasted it, you could feel that there was some ice in it."

4.1.2.5 Turn Justification:

The connective may serve to justify one's turn. This function is actually owing to two discourse pressure: 1) the maintenance of coherence, and 2) the rule-governed behavior of turn-taking. The speaker may simply use the connective to make his turn sound coherent. The connective may also be used when the speaker has nothing to say but is obliged to talk because of the rule-governed turn-taking behavior.

(9) <job>
    345.   ..   zong yao zuo dian shi.\
⇨ 346.A: ...(1)suoyi,_   ⇨ Turn Justification
    347.   ..   keshi wo juede--

"B: Anyway, you have to do something.
A: So, but I feel..."

4.2 Distribution

Table 1: The distribution of *yinwei* in conversation

	Prepose	Postpose	Total
Causal	26 (53.1%) [60.5%]	23 (46.9%) [14.2%]	49 [23.9%]
Further Explanation	10(9.3%) [23.3%]	98 (90.7%) [60.5%]	108 [52.7%]
Topic Initiator	5 (83.3%) [11.6%]	1 (16.7%) [0.6%]	6 [2.9%]
Floor Holding	2 (7.4%) [4.7%]	25 (92.6%) [15.4%]	27 [13.2%]
Floor Taking	0 (--) [--]	6 (100%) [3.7%]	6 [2.9%]
Turn Justification	0 (--) [--]	9 (100%) [5.6%]	9 [4.4%]
Total	43 (21%)	162 (79%)	205

Table 2: The distribution of *suoyi* in conversation

	Prepose	Postpose	Total
Consequential	0 (--) [--]	33 (100%) [20.4%]	33 [19.8%]
Further Explanation	1 (1.4%) [20%]	70 (98.6%) [43.2%]	71 [42.5%]
Topic Initiator	3 (60%) [60%]	2 (40%) [1.2%]	5 [3%]
Floor Holding	0 (--) [--]	16 (100%) [9.9%]	16 [9.6%]
Floor Taking	1 (5%) [20%]	19 (95%) [11.7%]	20 [12%]
Turn Justification	0 (--) [--]	22 (100%) [13.6%]	22 [13.2%]
Total	5 (3%)	162 (97%)	167

Table 1 and 2 deal with *yinwei* and *suoyi* in terms of their positions and functions. For instance,

example (1) in 4.1.1 shows a postposing *yinwei* performing Causal function. while example (7) in 4.1.2.3 shows a postposing *suoyi* with the functions Further Explanation and Floor Holding. By this way. all tokens of *yinwei* and *suoyi* in our data are included in these tables.[1]

Table 1 shows that 79% of *yinwei* is postposed. This demonstrates that unlike what grammar books predict. postposing is the preferred position for *yinwei* in conversations. The preposing position mostly performs semantic function. since 60.5% of preposing *yinwei* expresses causality. On the other hand. more than 85% of postposing *yinwei* performs pragmatic functions. There is no significantly preferred position for semantic function, while postposing is the preferred position for pragmatic functions. except Topic Initiator. Only 23.9% of *yinwei* is used semantically. so we can conclude that pragmatic functions are quite prevalent in conversations. Among these functions. Further Explanation seems to be the dominant one. In Table 2. we find that 97% of *suoyi* is postposed. The postposing position of *suoyi* is overwhelmingly preferred, since this is its basic position in the pair. However. *suoyi* is sometimes preposed. and this position only performs pragmatic functions, especially Topic Initiator. Like *yinwei*. the usage of pragmatic functions obviously outnumbers the semantic use, and Further Explanation is the most frequent one.

Table 3: The distribution of *yinwei* and *suoyi* in conversation

	yinwei	*suoyi*	Total
Causal/Consequential	49 (59.8%)	33 (40.2%)	82
Further Explanation	108 (60.3%)	71 (39.7%)	179
Topic Initiator	6 (54.5%)	5 (45.5%)	11
Floor Holding	27 (62.8%)	16 (37.2%)	43
Floor Taking	6 (23.1%)	20 (76.9%)	26
Turn Justification	9 (29%)	22 (71%)	31
Total	205 (55.1%)	167 (44.9%)	372

Table 3 compares each function's specific association with *yinwei* and *suoyi*. Further Explanation and Floor Holding tend to be associated with *yinwei*. while Floor Taking and Turn Justification tend to be performed with *suoyi*. We claim that this preference is not an arbitrary strategy. This phenomenon reflects different internal properties of *yinwei* and *suoyi* on discourse level. Since Floor Taking and Turn Justification involve initiating or even taking over a turn. it is probably that *suoyi* is more "active" in the discourse than *yinwei*. *Suoyi* usually positively takes the turn, while *yinwei* merely negatively holds the turn

Table 4 sheds light on the interaction between forms and functions. For instance. example (7) will be placed in the form 2 (ϕ ... *suoyi* ...) with pragmatic uses[2]. It is obvious that the forms 5 and 6 (*suoyi* ... ϕ ... and *suoyi* ... *yinwei* ...) with preposing *suoyi* never have the semantic use. while the forms 2 and 3 mostly perform pragmatic functions. Besides. the semantic function seems not to be associated with any particular

[1] Table 1. 2 and 3 do not deal with *yinwei* and *suoyi* as a pair but independently. That is. in the pair of *yinwei* ... *suoyi* ... , *yinwei* is counted once and *suoyi* is counted once independently. Each occurrence of *yinwei* or *suoyi* is counted according to the number of functions performed. For example. if a token of *yinwei* performs both the functions of Further Explanation and Floor Holding. it will be counted twice in Table 1 -- once as the former function and once as the latter. Similarly. if a token of *suoyi* performs three functions. it will be counted three times in Table 2. In Table 1, 2 and 4. the round brackets represent column percentage, and the square ones represent row percentage.

[2] Because the *suoyi* in example (7) performs two pragmatic functions. it is counted twice in Table 4. since Table 4 is the table of function distribution. And that is why the total number of causal connective pairs is different in Table 4 and Table 5. Table 5 is the table of form distribution. and each occurrence of the pair is counted as one token. regardless how many functions it may perform. Since one pair may have more than one functions. it is reasonable that the total number in Table 4 outnumbers that in Table 5.

form, but pragmatic functions do incline to be associated with the forms 2 and 3.

Table 4: Function distribution

	Form	Semantic	Pragmatic	Total
1	yinwei... suoyi...	24 (60%) [28.6%]	16 (40%) [5.6%]	40 [10.8%]
2	φ... suoyi...	20 (14.3%) [23.8%]	120 (85.7%) [41.7%]	140 [37.6%]
3	φ... yinwei...	23 (14.6%) [27.4%]	134 (85.4%) [46.5%]	157 [42.2%]
4	yinwei... φ...	17 (68%) [20.2%]	8 (32%) [2.8%]	25 [6.7%]
5	suoyi... φ...	0 (--) [--]	2 (100%) [0.7%]	2 [0.5%]
6	suoyi... yinwei...	0 (--) [--]	8 (100%) [2.8%]	8 [2.2%]
	Total	84 (22.6%)	288 (77.4%)	372

Table 5: Form distribution

	Form	occurrence	%
1	yinwei... suoyi	18	6.2
2	φ... suoyi...	109	37.6
3	φ... yinwei...	135	46.6
4	yinwei... φ...	24	8.3
5	suoyi... φ...	2	0.7
6	suoyi... yinwei...	2	0.7
	Total	290	100

Table 5 deals with the distribution of all 290 tokens and shows their distribution among the six forms. The dominant forms of causal connectives are forms 2 and 3, while the traditionally recognized form "yinwei...suoyi..." only makes 6.2%. According to this distribution, we claim that the preferred form of causal connectives is the pair with one preposing zero form and one postposing overt connective.

4.1.2 shows that yinwei and suoyi perform some pragmatic functions. We argue that the underlying principle of such usage is coherence. Using a causal connective may positively relate an utterance back to the prior discourse, making the current contribution more coherent. Yinwei and suoyi are used to express not only the semantic meaning of causality, but also some discourse-level meaning. Since yinwei and suoyi do not only convey the lexical meaning, they are used pragmatically and grammaticalized in the sense of Heine et al.[10]. Our result also supports Hopper's claim [11] that grammar is emergent but never specific.

5. Collaboration

This section attempts to investigate the collaboration of interlocutors in terms the use of discourse connectives. Interlocutors collaborate in many ways; actually, developing the conversation itself is collaboration. But in this paper, we narrowly define collaboration as using a discourse connective to relate back to others' words. Using a connective to continue others' utterances is considered as a rather "positive" way of collaboration because the connective makes the current utterance more coherent in its form. We wish to prove that interlocutors collaborate on discourse level through this behavior.

5.1 Cooperation in conversation

Causal connectives can be used to continue others' utterances. Such collaborative connectives occur turn-initially, but reactive tokens, such as duiya in (10), or connectives, such as na, can be ignored.

(10) <work>
   197. .. yi tian dagai you sanbai duo kuai ba.\
   198. A: .. ei na hen gao e.\
   199. .. ershi nian qian ne.\
 ⇒ 200.B: .. dui ya,_   ⇒ reactive token
   201. .. *yinwei* pashan hen xinku e.\
  "B: About three hundred dollars a day.
  A: Hey, that's very much in twenty years ago.

B: Yeah. Because mountain climbing is very tiring."

In these collaborative conversations, interlocutors usually hold similar point-of-view and help each other to develop the topic further. However, the interlocutors may hold different viewpoints, too. See (11)

(11) <exam>

63. ... <E middle exam E> ma.\
64. B: .. qi mo jiao baogao.\
65. A: .. dui ya.\
66. B: ...(1)zhe bijiao hao oh.\
⇨ 67. A: ...(2)duiya *yinwei* dang ye bijiao kuai.\

"A: A middle exam.

B: Hand in a paper at the final of the semester.

A: Yeah.

B: This is better, right?

A: Yeah, because it would be sooner to be flunked out, too."

In IU 67, A seems to use *yinwei* to continue B's utterance in IU 66, and provides an explanation. However, A does not agree with B, and this is in fact an irony achieved with the collaborative strategy. This illustrates that even interlocutors are not collaborative in their attitudes or viewpoints, they still tend to collaborate in developing the conversation.

5.2 Discourse functions

This section discusses the behavior of *yinwei* and *suoyi* in terms of the difference of usage and types of discourse. Below tables include all occurrences of *yinwei* and *suoyi*, and each token is used either individually (continuing one's own utterances) or collaboratively (continuing another speaker's utterances). Since our data include both radio interview and natural conversation, we also separate tokens in these two types of discourse, and see if type of discourse makes any difference in the phenomenon of collaboration.

Table 6: The distribution of causal connectives *yinwei* and *suoyi*

	Individual	Collaborative	Total
Radio interview	174 (85.7%)	29 (14.3%)	203
Natural conversation	82 (94.3)	5 (5.7%)	87
Total	256 (88.3%)	34 (11.7%)	290

Table 6 shows that 11.7 % of causal connectives are used collaboratively, and this is perhaps because the form of *yinwei* and *suoyi* is a pair. The form as a pair encourages interlocutors to use *yinwei* and *suoyi* collaboratively. Besides, we find that *yinwei* and *suoyi* behave differently in different types of discourse. Only 5.7 % of causal connectives are collaborative in natural conversations, while there is a significant percentage of 14.3 % of collaborative *yinwei* and *suoyi* in radio interviews. In radio interviews, interlocutors have to introduce a topic within a limited period of time. Since they share the responsibility to develop the conversation, they are more willing to continue each other's utterances collaboratively.

Table 7: The distribution of collaborative causal connectives (by function)

Function	*yinwei*	*suoyi*	Occurrence
Causal/Consequential	2	1	3
Further Explanation	9	19	28
Floor Taking	1	6	7
Turn Justification	1	7	8
Total	13	33	46

Collaboration may be associated with some particular discourse functions. In our definition, a collaborative connective is turn-initial, so Floor Holding cannot occur in Table 7. Besides, a collaborative connective must be used to continue other speaker's previous utterances, so Topic Initiator by definition is

not in Table 7. The collaborative phenomenon occurs in Causal/Consequential, Further Explanation, Floor Taking and Turn Justification. Further Explanation seems to be the most preferred function in collaboration. This table also shows that *suoyi* is more frequently used to achieve the collaboration than *yinwei*.

6. Conclusion

This paper discusses conversational collaboration in terms of the use of Chinese causal connectives *yinwei* and *suoyi*. It is shown that type of discourse affects the collaboration of interlocutors. In less casual conversations, such as radio interview, speakers more frequently use causal connectives collaboratively. Our findings support that conversation is a collaborative process [5], and show that interlocutors collaborate on discourse-level. Using a connective to continue others' contributions is a positive indicator of collaboration, since an overt connective helps maintain the coherence. Observing the usage of *yinwei* and *suoyi* in conversational discourse, we find that *yinwei* and *suoyi* are preferred to occur independently in the postposing position of the pair. Besides the semantic function of causality, they also perform many pragmatic functions, such as Further Explanation, Topic Initiator, Floor Holding, Floor Taking and Turn Justification. According to our corpus, the pragmatic use of *yinwei* and *suoyi* outnumbers their semantic use with the percentage of almost 80%. The underlying principle of such pragmatic usage is to maintain the coherence of discourse. Since the majority of *yinwei* and *suoyi* are used pragmatically, we conclude that they are grammaticalized.

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