行政院國家科學委員會專題研究計畫成果報告

思維與與語言的譬喻模式
Metaphorical Models of Thought and Speech

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執行單位 ： 台灣大學語言學研究所
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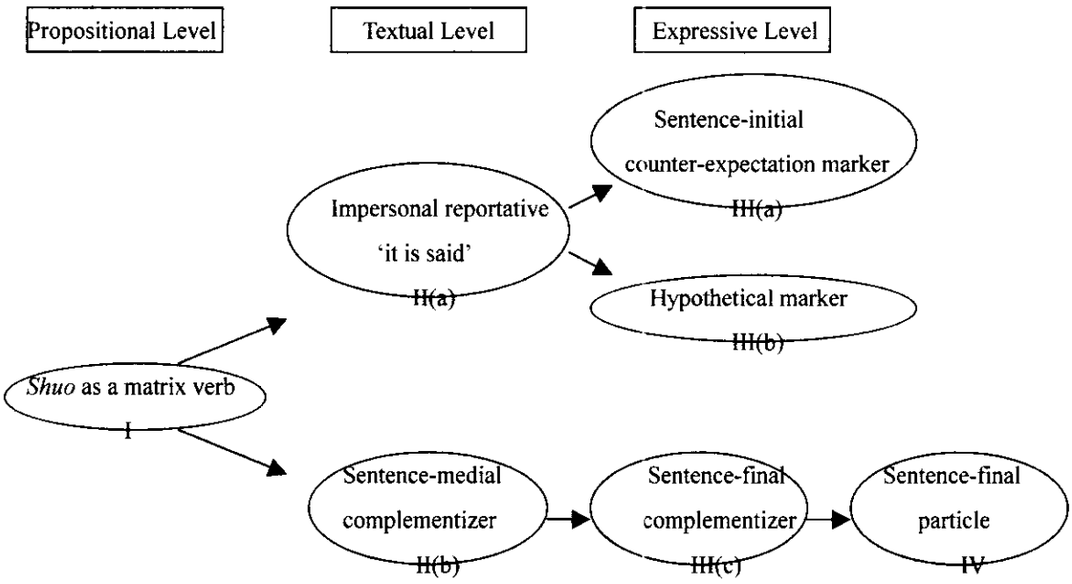
1. Introduction

There shuold be strong parallels between speech and cognitive acts, which make them both things that can be reported through speech and account for why they often cooccur with each other. The relationship between speech and thought shuold start, cognitively, from the stage of "having the idea that..." and then move verbally on to the stage of "one assuring that...." However, with the thought being reported, the line between mental verbs and speech-act verbs is often blurred. When one says something, he is in fact reporting what he thinks in his mind as well. Thus, in English, we have the interesting expression like "I say what I mean," though the expression "I mean what I say" occurs just as frequently. Studies by Huang (1982), Chui (1994), and Wang, Katz & Chen (2000) all support the view that there is metaphorical extension between the two domains: speech and thought, where speech is taken as thought. In fact, as early as in Vygotsky (1962), the view of cognitive activities as a kind of "inner speech" has been pointed out, which is deemed responsible for the cross-linguistically similar morphosyntactic behavior between mental verbs and saying verbs.

Homogeneity between speech and thought probably accounts for the frequent co-occurrences regarding the speech-act verbs and the mental verbs. This close affinity is recounted in the investigation on the grammaticalization of *like* from saying verbs in English: "...there is a subtle and often fuzzy boundary between reported speech and thought" (Romaine & Lange 1991: 263-265). Vendler (1972) has pointed out a strong semantic correlation between mental verbs, such as *know*, and speech act verbs or verbs of saying. He argues that there are significant parallels between forms of thought and forms of speaking, so that you can say whatever you think and think almost whatever you say. Analyses of discourse in other languages have also documented the close relationship between reported speech and the description of mental states and events...In taking these ideas further, Traugott (1986) has postulated that where both non-speech-act and speech-act verb meanings coexist, the former will precede the latter in time. Since mental verbs like *think* and *know* are propositional in nature, and since speech-act verbs are interactive, the speech-act verbs can be expected to be later developments.

Klamer (2000: 75) made the same observation: "The similar marking of speech and cognitive acts has been explained by considering both of them a kind of speech --- cognitive activities are a type of 'inner speech.' " In Mandarin, instances like "他們的心裡說..." or "聽到的人心中都在說..." validates this point.

2. Our proposed model of the grammaticalization paths of *shuo*:



Note: There is no chronological order between the labeling of a, b, and c.

PATH 1:

1) **Step I**:

Root meaning: to utter language through the mouth; hence as a verb of saying.

Originally, *shuo* as a canonical verb means 'to say words', then by metaphorical extension and metonymy, speech acts that can be achieved by uttering language can also be denoted by *shuo*. Since words are powerful than the sword, they can be used for all kinds of purposes, good or evil. Therefore, *shuo* has abundant lexical meanings and is a polysemous verb in Mandarin:

e.g., 'to speak out/mention' : 大漠上的風沙*說*來便來,

'to talk about': 請您*說一說*,到底明王是怎樣的一種人?

'to tell': 我在這兒聽阿秀*說*故事,

'to mean'('to think'): 而 有教無類 是*說*,一個人只要...

: 你說屋子會不會給風吹倒?

Syntactically, it can co-occur with modal verbs or aspect markers; it must take either an nominal argument, including sentential object, or an adverbial complement. *Shuo* here is used as a matrix verb, which is an obligatory element in the sentence.

e.g., 'to say': 他們的心裡*說*祝福妳啊! 孩子。

2). Step II(a): The development of hearsay function: Loss of subject identity (syntactic reanalysis)(the rise of hearsay function evade responsibility)
Since Mandarin is a language that allows the pronominal subjects to be omitted because of clear discourse context, the reported speaker in the report construction may sometimes lose its reference, especially when the reporter is the third party or impersonal agent. The speaker knows the event or story from other sources rather than from the speaker's knowledge. We term this kind of *shuo* as a impersonal reportative marker, following (Chang 1998).
e.g. 老車,我聽人家說過的,*說*你有個女兒,是草原上一朵會走路的花。

Intermediate stage: pragmatic inference (deontic toward epistemic meaning)
e.g. 認識陳一安先生是五六年前的事了,*說*緣分也好,是友情也好,良師是真的。

3a). Step III(a): The expressive meaning of sentence-initial *shuo*:
The loss of subject identity also leads to less commitment of the reporter on what is reported, and then the speaker, due to the less direct evidence of the event, in certain contexts expresses his/her doubt or surprise toward the proposition by the hearsay *shuo*, which has reanalyzed as "a sentence-initial particle for counter- expectation " (Chang 1998: 117). In this development, *shuo* usually cooccurs with the focus marker *是 shi*, indicating the disbelief of the speaker about the heard event. Counter-expectation marker is adopted especially when the proposition following *shuo* involves the first person *wo* "I"/*women* "we" agent.
e.g. 把個人抽離出來,給他人權,給他保障,*說*是人民做主。

3b). Step III(b): The hypothetical *shuo*:

The close association between the domain of speech and the hypothetical mood has been evidenced in Frajzyngier (1991) and Romaine & Lange (1991). "Verbs of saying **are used to indicate that evidence is less than complete and that the information** obtained through speech is not as reliable as information obtained through direct **observation....and the hypothetical is indicated by preceding the hypothetical** proposition with a phrase making use of a verb of saying." (Romaine & Lange 1991: 232) By metonymic association of the hearsay function of *shuo* and pragmatic inference, *shuo* has developed hypothetical meaning. Besides, *shuo* can be optional in these hypothetical sentences
e.g. 如果說: 我來了就代表我的誠意,

PATH 2 → →

1). Step I (as a verb) a quote marker(":") Step II(b)a complementizer
(refer to 5)

Intermediate stage: *Shuo* as the second verb of the serial verb construction belongs to part of the matrix verb but shares the same subject argument with the first verb in the main clause. In this usage, the function of *shuo* is becoming that of a quote/reportative marker because it cannot take aspect markers and cannot be omitted.
e.g. 住台北縣的王小姐來信說: 我有一個男友,...

2). Step II(b): Through metaphorical mapping between speech and thought and loss of argument structure (i.e. syntactic reanalysis), *shuo* has become a complementizer (deontic), indicating the linkage of the main and subordinate clauses; *shuo* in this usage as a complementizer before the subordinate clause can usually be omitted.
e.g. 你很可能就不會再堅持說這些作品 平淡無奇 了。

3). Step III(c): As a complementizer, the syntactic position of *shuo* then becomes less fixed. On the other hand, due to language contact (Bayer 1999:267, Wang, Katz & Chen 2000) between Mandarin and Taiwanese, *shuo* also appears as a sentence-final complementizer as in Taiwanese, which may incorporate more vividness into the subjective descriptions of the speaker's feelings or attitudes. Therefore, the sentence-final complementizer (epistemic usage) typically co-occurs with the first person subject and the mental verb *juede* in the main clause.
e.g. B: 對啊!我覺得徐淑媛好可憐說... (Wang, Katz & Chen 2000: 203)

4). Step IV: The development of sentence-final *shuo*:
We do not consider that there exists the derivation relationship between sentence-initial *shuo* and sentence-final *shuo*. Rather, we think the development of sentence-final *shuo* may start after it has become a complementizer preceding a subordinate clause.

After the syntactic reanalysis, *shuo* in colloquial discourse begins to occupy the sentence-final position more and more often without being controlled by another main clause and encode epistemic modality like other sentence-final particles, expressing the speaker's attitude or belief toward the proposition it follows without explicitly mentioning: "I/we" think or feel that.... As for the subjective stances that the speaker wants to convey depend on the contexts in which these sentence-final *shuo*s occur. Then by this pragmatic enrichment, it may signify such interpersonal functions as counter-expectation, mitigation, or intensification, etc.

3. Other lexicalized usage of *shuo*:

As a particle from different sources and with different functions

a. '雖然*說*' '甚至*說*' '或者*說*'

b. '所以*說*'

c. '比方*說*' '比如*說*' '譬如*說*' '好比說' '例如說'

d. '除非*說*' '不一定*說*' '因爲'

e. '就是*說*' ▶ ▶

4. Frequency count of different types of *shuo* in corpora:

A. Sinica Corpus:

Function of *shuo*		Nm of tokens	Percentag %	Modality %
A matrix verb	Saying verb	1861	93.42	Dynamic: 94.53
	Cognitive verb	22	1.10	
Impersonal reportative marker		20	1.00	Deontic: 3.21
Sentence-medial complementizer		44	2.21	
Sentence-initial counter-expectation marker		14	0.70	Epistemic: 2.26
Hypothetical marker		10	0.50	
Particle	Sentence-final particle	0	0	
	Lexicalized usage	21	1.05	
Total[1]		1992	100	100

B. Spoken Corpus:

a. Su:

Function of *shuo*		Nm of tokens	Percentage %	Modality %
A matrix verb		527	62.59	Dynamic: 62.59
Impersonal reportative marker		3	0.36	Deontic: 29.69
Sentence-medial complementizer		247	29.33	
Sentence-initial counter-expectation marker		0	0	Epistemic: 7.72
Hypothetical marker		9	1.07	
Particle 3	Sentence-final particle	0	0	
	Lexicalized usage	56	6.65	
Total[2]		842	100	100

[1] In the 2000 tokens of Sinica Corpus, there are 3 instances of *說* as the homograph of *悅*, and 5 as the noun, denoting "theory". Therefore, there are 1992 instances of *shuo* left as our model for observing its grammaticalization in process.

[2] In the 698 tokens of Spoken Corpus, 4 instances of *說* function as the noun.

b. Huang:

Function of *shuo*		Nm of tokens	Percentage %	Modality %
A matrix verb		449	64.70	Dynamic: 64.70
Impersonal reportative marker		13	1.87	Deontic: 24.92
Sentence-medial complementizer		160	23.05	
Sentence-initial counter-expectation marker		7	1.01	Epistemic: 10.38
Hypothetical marker		27	3.89	
Particle	Sentence-final particle	2	0.29	
	Lexicalized usage	36	5.19	
Total[3]		694	100	100

5). **The Parallel Distribution and Co-occurrence of *Shuo* and *Xiang***

Epistemic *xiang* can occur sentence-finally:
e.g. 由他執筆此文，實不做第二人想 *(speaker 想)*

Interestingly, saying verb *shuo* shares such utterance-final distibution. For details, see Wang, Katz and Chen (2000). Also, the polysemy of *shuo*:
e.g. 我說，王小姐呀，你這衣服該挺貴的 (constructed example)
你說，你這樣子做對嗎? (constructed example)

Occurrences of *shuo* after *xiang* is also note-worthy. Consider the following:
e.g. 所以我想說要找他 (deontic)
你就會想說, (dynamic)
eh/[我是不是憂鬱症 oh]?\
我就想說, (dynamic)

These occurrences of *xiang* before *shuo* precede mostly reported thought. This corresponds to the observation in Wang, Katz and Chen (2000:200): "The statement which the complementizer *shuo* introduces seems to be out of the speaker's awareness... When the saying verb *shuo* is established as a complementizer, it seems that the complementizer indicates an event with less direct evidence." The fact that *shuo* does not occur after epistemic *xiang* further evidences the appropriateness of our classification. Epistemic modals express the speaker's belief and thus should bear a strong linkage between the proposition and the speaker

[3] In the 845 tokens of Spoken Corpus, 3 instances of *說* function as the noun.

(present, first person). Hence, if the speaker holds little confidence in the proposition uttered (i.e. reported thought or speech), he tends to recruit *shuo* to express this lack of confidence, and will not employ strong epistemic *wo xiang*. Indeed, in all the examples, we rarely find co-occurrence of epistemic *xiang* and *shuo*. Also, the idiomatic expressions including *xiang* are relatively lower in number than those with *shuo*, so it is unnecessary to single out such sort of expressions as we do in examination of *shuo*. The current criteria of classification suffice to tackle *xiang*.

In sum, first, if *xiang* is followed by an aspect marker, it belongs to dynamic modality by the above criteria. Second, dynamic *xiang* usually precedes an NP or a reported thought, deontic *xiang* a VP, and epistemic *xiang* a subjective belief. Third, epistemic *xiang* has a relatively free distribution. It is allowed utterance initially, medially, and finally. Finally, the agent of *xiang* may influence its classification as well. Without other syntactic cues, if the agent is *wo, ni*, or *nimen*, it tends to fall into epistemic modality.

Such distributional patterns emerge in our close examination of linguistic data. Among these patterns, some seems to point to the belief that pragmatics is the main force that triggers the semantic change of *xiang*: 1. The interaction and exclusive co-existence of first or second person subject and epistemic modality. 2. When context allows both deontic and epistemic readings, the subject must be second person.

Appendix

「想」在中研院平衡語料庫（書面爲主）中之統計：

	meanings	tokens	%	examples
dynamic	think (consider, come up with ideas)	582	32.68	沒有時間生小孩，更別提有時間去想什麼認同的問題了。 我們一定要想辦法提升我們博士學位的水準。
deontic	desire (want)	1034	58.06	她們想表達的即使不對，也要等說完了才糾正。
epistemic	subjective assumption	165	9.26	我想我最佩服的是孫策。
total		1781	100	

「想」在口語語料庫(Su + Huang)的統計：

	meanings	tokens	%	examples
dynamic	think (consider, come up with ideas)	109	32.93	其實我們也是在想一些其他的方式去盡量增加巧克力的這個consumption。
deontic	desire (want)	86	25.98	妳好，我想請問一下柯老師hoN
epistemic	subjective assumption	136	41.09	不過我想美國人身材魁梧，也許也不一定。
total		331	100	

	meanings	Tokens (Huang/ Su)	% (Huang/ Su)
dynamic	think (consider, come up with ideas)	71 / 38	33.97 / 31.15
deontic	desire (want)	52 / 34	24.88 / 27.87
epistemic	subjective assumption	86 / 50	41.15 / 40.98
total		209 / 122	100 / 100

中研院（書面語）部分加台大（口語）部分：

	meanings	tokens	%
dynamic	think (consider, come up with ideas)	691	32.72
deontic	desire (want)	1120	53.03
epistemic	subjective assumption	301	14.25
total		2112	100

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ICLC-7, UCSB

第七屆國際認知語言學學會與會報告

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今年的第七屆國際認知語言學學會（ICLC-7）假美國加州大學 Santa Barbara 分校舉辦，有來自世界各地的數百位專家學者發表論文，共襄盛舉，其中來自歐洲的即多達一、二百人之譜。因為今年的 SIL 也在 UCSB 舉辦，所以大會盛況空前，可容數百位座位的演講廳常常爆滿，尤其幾場由大師級學者所主講的專題，更是熱鬧非凡。

會議一共六天（7月 22 日至 27日）。因為發表的人數極多，除了 plenary 及 featured speeches 以外，每一個時段都有五個主題（para-sessions）同時進行，讓與會者都得以選擇他們最感興趣的研究主題參加，因為本會議主題明確，論文精彩，且彼此的相關性極高，許多與會者覺得難免顧此失彼，常得在同一場次中穿梭於不同的會場，以免有遺珠之憾。

此次會期的報告兼及認知語言學中的 metaphor, conceptual structure, grammaticalization, construction grammar 等研究主題。研究的語言包括南島語，印歐語，漢語，阿爾泰語等等各種不同語系的語言，甚至也包含 ASL（American Sign Language）及 gesticulation 的研究，內容十分充實，議程更是緊湊。每篇報告只排了２０分鐘的宣讀時間及５分鐘的討論，時間掌控得十分嚴謹。

參加 ICLC 這樣的盛會，除了對語言的奧妙倍感於心外，對於與會者，尤其是歐洲學者的語言能力更是敬佩。大多數的歐洲學者都可以毫不費力地轉換使用數種不同的語言，他們對於非其母語語言的掌握令人望塵莫

及。歐洲的特殊語言環境對於語言學在歐洲的發展應是不容忽視的。

在私下交談中，發現大部份歐洲訓練的學者所感興趣及關心的議題往往與許多接受美式學院訓練的與會者（包括筆者）大異其趣。這種落差在文獻的閱讀中並不察覺，卻在參加這一類的國際會議中深刻的彰顯出來，應該也可算是一種收穫吧！

六天的大會安排了 200 篇左右的論文，其中一大半是對於 metaphor 的探討。遺憾的是，pragmatics 在此次會議上並不是十分被重視，令人失望，但這次會議在筆者個人的研究上有十分重大的影響。長久以來，本人一直將 metaphor 當成語意轉變的首要及初步機制，但在聆聽了數十篇 metaphor 的論文之後，我的想法有了改變。Metaphor 應該是人類允許語意轉變的認知機制，但語用（兼及頻率及語境）應該才是驅使語意轉變的原動力。

另外，Kyratzis（7/23/2001）的演講中所提及的 chain of metaphor 的觀念與筆者前二年研究中所提出的 metaphor upon metaphor, 其實有異曲同工之處，這樣的發現叫人欣慰。

ICLC 是國際認知語言學的重要會議。參加這次的會議，使筆者對於認知語言學的發展現況有最新的了解及掌握，並得以和自己神交已久的知名學者共聚一堂，討論自己感興趣的議題，是人生一大樂事。再者，看見認知語言學的蓬勃發展，也讓自己更堅定在這條路上努力堅持下去的決心。

Rethinking Sequentiality and Coherence: A Study Based on Chinese Connectives*

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> Utterances combine to form discourse and the relations between them are aspects of discourse coherence.
> Malcolm Coulthard (1977:10)

1. INTRODUCTION

The study of sequentiality, i.e., relations between sentences, in discourse is first to show how the meaning and reference of sequences of sentences depend on the meaning and reference of their component sentences. This is the major difference between logical semantics (semantics proper) and linguistic semantics (pragmatics). Formal semantics only interprets simple or complex sentences, but not sequences of sentences. Sequences of sentences, in logic, appear only in derivations. The interpretation of sequences of sentences is determined by connectives, if present, and the notion of derivation is necessary in natural language discourse.

One of the problems in the semantics of natural connectives is their possible ambiguity: the same connective may express different types of connection, and one type of connection may be expressed by various connectives. Connection constraints in discourse are based on the requirement that sequences of sentence or propositions are conditionally related. Van Dijk (1979) distinguishes two types of connectives and their uses: one semantic and the other pragmatic. Semantic connectives are those that express meaning relations between denoted facts whereas pragmatic connectives are those that express relations between speech acts. The pragmatic ones are not truth-functional, but intentional – they involve aspects that require explication in terms of knowledge and expectations of the speaker and the hearer.

The pragmatic use of connectives is inferred from meaning relations between propositions. It is beyond doubt that, in comparison to the planned discourse, speakers rely more on the immediate context to express propositions in the unplanned discourse, e.g., conversation. Our investigation of the connectives draws data from spoken data, hoping that much looser use of the connectives may yield more interesting findings.

Via connectives, sequentiality in discourse may therefore be explored. In fact, sequentiality is central to any theory of pragmatics, discourse, conversation and context. It is manifest in the recontextualized conversation-analytic principle of adjacency, i.e., adjacency pair, adjacency position, adjacency relation, and turn-taking, as well as in the

Gricean notion that communicative contributions are linked by one or more common goals manifest in prior and succeeding talk (Grice 1975). It may also be "globalized," adapted to social settings and thus to larger units of investigation, such as opening, closing and topical-organization of talk exchange. Such resulting interrelatedness is said to hold for both local and global coherence (De Beaugrande & Dressler 1981; Gernsbacher 1995; Halliday & Hasan 1976; Tannen 1993), which may be interpreted from semantic as well as from pragmatic perspectives.

2. SOME RELATED NOTIONS

According to Givón (1993), the strong preference in human communication toward sequential order in communicating events is most visible in the case of temporal coherence and causal coherence. The strong preference in text production and text interpretation is toward

Temporal sequence:	earlier before later
Causal sequence:	cause before effect

In addition, action sequences tend to come in routinized, culturally-shared scripts or schemata. What Akmajian et al. (1984:390) observes is indeed true: "Probably the most pervasive characteristic of human social interaction, so pervasive that we hardly find it remarkable, is that we talk." The process of communication is however not as simple, in spite of our gift for language. A speaker is expected to formulate an utterance so that its message is accessible to the hearer, who is then expected to demonstrate, through a next utterance, proper attention to that message. This, as it turns out, is not a trivial achievement; a rich and subtle system of principles underlies this apparently facile talk.

2.1. Coherence

Though coherence is a semantic concept when it was first used (Halliday & Hasan 1976), it can involve pragmatics and cognitive notions under a broader definition. For instance, Beaugrande (1980) defines coherence from the perspective of processing, and maintains "coherence subsumes the procedures whereby elements of knowledge are activated such that their conceptual connectivity is maintained and made recoverable." Indeed, coherence should be treated as "a cognitive phenomenon in the mind that produces and comprehends the text (Givón 1995)." Coherence is that part of the meaning of two discourse segments, which goes beyond the meaning of each of the parts (Sanders et al. 1993). To obtain discourse coherence, each node representing text in episodic memory must be connected, or grounded to either some sequentially adjacent, hierarchically adjacent, or non-adjacent nodes within the mental text structure.

2.2. Theoretical Assumptions

The very basic idea for the functional explanation of language lies in the assumption that the function of language can be established by finding explanations for language structure in systems outside of language itself. In other words, the proposition expressed by an utterance depends on the contextual information that the hearer brings to hearer on its interpretation. Yet the mere accessibility of contextual information is not enough to guarantee its use in the recovery of the proposition expressed – the interpretation recovered must be constrained by some pragmatic and cognitive principles.

That is to say, recipients recognition of a communicator's intentions can be achieved somewhat independently of shared reliance on conventional signs. Since messages can be inferred despite reduced attention to the linguistic code, individuals need not be assumed to rely solely on the shared knowledge of the sound-meaning correspondences. Individuals are assumed rather to rely on the shared knowledge of another sort – shared knowledge of communicative principles – for it is these principles that allow the inference of communicators' intentions.

The present study thus assumes that coherence or order in conversation is not to be found at the level of linguistic expressions, but at the level of the speech acts or the interactional moves that are made by the utterance of those expressions (Levinson 1983). Conversation is a complex process composed of sequential location and topical coherence across two utterances. One aim of discourse analysis is thus to discover the systematic properties of the sequential organization of talk, and the way in which utterances are designed to manage such sequences.

2.3. Objectives of the Present Study

Functionally based approaches to language tend to draw upon a variety of methods of analysis, often including not just quantitative methods drawn from social scientific approaches, but also more humanistically based interpretive efforts to replicate speakers' own purposes or goals. In this paper, we focus on the textual use of temporal and causal connectives in everyday discourse. Our analysis rests upon both quantitative and qualitative analyses of these connectives in a large body of data. We concentrate on their use in relation to larger units of text. We also discuss, in addition to their semantic meaning, the epistemic or pragmatic use of these connectives.

In this study, the uses of Chinese connectives -- *ranhou* 'then' (Section 3) and *yinwei...suoyi...* 'because...therefore...' (Section 4) – for achieving conversational coherence in extended spoken discourse will be analyzed. Our analysis seeks distributional accountability to a particular database, with the goal to ground conclusions about the uses of these connectives empirically, by accounting for their distribution in a corpus of everyday talk. Thus, the research questions asked are: where are the connectives in question likely to occur, and why could they occur there? What features do the environments of likely occurrence share? What functional explanations, with special relation to sequentiality, both at the syntactic and at the discourse levels, can be attributed to the occurrence of these connectives?

3. TEMPORAL CONNECTIVE: ***Ranhou***

Connectives in discourse often lose their semantic content in conjoining two propositions but are used as discourse markers (Schiffrin 1985; 1986; 1987) or verbal fillers (Huang 1993) for speech planning. Epistemic *ranhou* in interaction displays similar uses.

Like many temporal markers, *ranhou* 'then' displays anaphoric as well as deictic uses. That is, in addition to deictic meanings that locate speech events relative to contexts of speaking, *ranhou* 'then' has, as a temporal marker, anaphoric meanings that are textually established: we make temporal interpretation about events based on their relation to a textually given reference time. The use of *ranhou* as such illustrates the simple but immensely important fact that natural languages are primarily designed, so to speak, for use in face-to-face interaction. There are limits to the extent to which they can be analyzed if this aspect were not taken into consideration.

Various uses of r*anhou* have been discussed in great detail in Su (1998a). For instance, *ranhou* is typically used as a temporal anaphora to mark inter-clausal sequential relationships between adjacent clauses, as in (1):

(1) 1.A: meici mei cagan jiu daochu luan zou
every_time not wipe_dry then everywhere messy walk
⇨ 2. ranhou-- zhengjian fangzi jiu shi-dada de
then entire_Cl house then wet-Red Nom

"(He) always walks about in the house even though he has not wiped dry. Then the entire house becomes soaking wet."

The connective *ranhou* is often found at the IU[1] initial position, followed by a pause and uttered with a specific intonation contour. This sequential use is found to be present both at a local level and at a global level. Other uses of *ranhou* include marking a causal relationship and a non-temporal relationship[2].

Discourse uses of *ranhou* could occur in contexts indicating condition or concession; it can also function as a filler[3], as in (2), or as a marker introducing topic succession, as in (3):

(2) 1.A: ranhou-- zaoshang buxi
then in_the_morning go_to_cram_school
2. xiawu shuijiao
in_the_afternoon sleep
3. ranhou kan dianshi zhe yangzi
then watch TV this way

"Then (I) go to cram school in the morning, sleep in the afternoon, and then just watch TV."

(3) 1.A: gaozhong jiu yijing bijiao suan shi
senior_high_school already comparatively count be
2. bijiao gaoji de jiaoyu le
comparatively high_level education Particle
3.B: shi , shi
right right
⇨ 4. ranhou shi-bu-shi you hen duo ren
then be not be exist very many people
5. bifangshuo shi
for_example be
6. benlai xiang kao gaozhong
originally think take_the_exam senior_high_school
7. jieguo mei kaoshang
consequently not pass_the_exam

"A: Relatively speaking, high school (education) is considered higher education.
B: Right. Then are there many people, for example, who attempt to go into a senior high school, yet fail to pass the exam?"

Such interactional use – as a discourse marker or a filler – typically appears at the turn-initial position. That is, *ranhou* is not necessarily used anaphorically to link a previous proposition (event time), but simply to denote the temporal sequence of speech behaviors (discourse time).

The following table adapted from Su (1998a) summarizes the distribution of the various uses of *ranhou*:

Use	Token	Percentage
Ideational	122	70.1%
Temporal	58	33.3%
Consequence	13	7.5%
Lists	51	29.3%
Interactional	52	29.9%
Overall	174	100%

Table 1. The use of *ranhou* in spoken discourse[4]

Table 1 outlines a general pattern of the ideational vs. the interactional uses of *ranhou*. It is found that the ideational use (around 70%) of *ranhou* still outweighs the interactional use (close to 30%). Su (1998a) hinted at the possibility that the degree of plannedness might have a bearing on the result, and the interactional use of *ranhou* as a discourse marker might be underestimated because of the choice of data type in her study.

4. CAUSAL CONNECTIVE: *Yinwei...suoyi*

Halliday & Hasan (1976) claims that English causal connectives may convey, other than causal linking, reasoning processes and the conditional relation. They therefore propose that connectives have both the ideational and the interpersonal meaning. Their claim makes a distinction between semantic and non-semantic usage of causal connectives, and bears great impact on various pragmatic approaches to the study of connectives (e.g. Unger, 1996; Moeschler, 1993; Carston, 1993). The distinction made is in line with our differentiating the ideational vs. the interactional uses presented in the last section.

4.1. The Ideational and Interactional Uses

The pragmatic uses of the Chinese causal connectives are implied in the studies by Kirkpatrick (1993), Biq (1995) and Wang (1999). In their studies, Chinese causal

clauses are characterized with reference to their syntactic patterning in discourse. Kirkpatrick (1993) maintains that the preference patterns for the Chinese speakers, in terms of how they present their points in verbal exposition, is to give the supporting materials for the main point before they explicitly deliver that point. His claim that the preferred sequence for expressing causal relations – reason preceding main – is however challenged when spoken data is selected for a study of this nature. Biq (1995) states that reason-preceding-main is not necessarily the preferred order for expressing Chinese causal relation. Interactional factors, such as the ones arising from the functional nature of text types may have an impact on such a sequence. She therefore advanced that the preferred order for causal clauses in casual conversation is main-preceding-causal sequence. Wang (1999) examines further the functions of Chinese adverbial clauses in relation to their syntactic position and intonation. She suggests that the high frequency of final causals may be a linguistic device reflecting "an on-going process of structural adaptation that is functionally motivated and originated from interaction." Via the preferred information sequence of adverbial clauses she establishes, Wang validates the iconic relationship between syntax and discourse.

Hsieh's study (1999) clearly addresses the discourse functions associated with the Chinese connectives *yinwei* "because" and *suoyi* "so/therefore." Other than recognizing the semantic functions of *yinwei* (i.e., to state a cause as in (4)) and *suoyi* (i.e., to introduce a consequence as in (5)), Hsieh also singles out their various pragmatic functions, such as to provide further explanation (as in (6a) and (6b)), which is one of the main pragmatic uses displayed by *yinwei* and *suoyi*[5].

(4) 80.A: .. (H) ta yi yao,
he one bite
81. .. oh (Hx) @<@tongtong dou shi naiyou@>
whole all be butter
82. .. <@XX dou shi naiyou@>,
all be butter
83. ... ta jiu/ra=/,
he
84. .. hen exin@@,
very disgusted
⇨ 85. ... <@ranhou jiu@>,
then then
86. .. <@zhende@>,
really
⇨ 87. .. <@yinwei [na ge xingzhuang ... dui a@>],
because the Cl shape right Particle

"As soon as he bit (the cake), he found it was all butter. He felt really disgusted

because of the shape of the butter."

(5) 282.A: .. qishi shi shuo,_
in_fact be speaking
283. .. ta de dongxi bu nanchi,_
he things not taste_bad
284. .. danshi,_
but
285. ... zhonglei ^ feichang shao.\
kinds very few
286.B: ... o=h
Interj.
⇨ 287.A: ... suoyi mei you shemo ren.\
so not exist what people

"In fact, the foods there do not taste bad, but the varieties are few. Therefore, there are not many customers."

(6a) 80.B: [wanquan--]
totally
81. ... wanquan shi yi ge=
totally be one Cl
82. ... shushi la.\
negligence Particle
⇨ 83. .. [yinwei wo] na-dao de shihou yijing --
because I take Nom time already
84.A: [mhum].\
85.B: ... qi le hen duo ci.\
be_angry Perfective very many time
86.A: .. [uhhuh].\
87.B: [ranhou ye] ma le hen duo ci.\
then also scold Perfective very many time

"It was totally a negligence because until I got (the thing), I had been angry for many times and scolded the one to blame for many times."

(6b) 238. … ta juede,_
he think
239. … yao yong mingren lai daidong liuxing.\
should use celebrity Lai lead fashion
240. .. [lai]--
Lai
241.A: [umhum umhum].\
242.B: … lai chengli yi ge xingxiang.\
Lai establish one Cl image
243. .. ta-ta shi yi ge--
he he be one Cl
⇨ 244. …suoyi ta--
so he
245. .. ta yongyuan dou shi zou zai,_
he always all be walk at
246. .. renjia hen qianmian.\
others very front

"B: He thought that the fashion should be led by celebrities, so as to create a style. He was a…So he always walked much beyond others."

In view of the unique circumflex nature of *yinwei* and *suoyi* in Chinese, Hsieh summaries the possible correlation between form and function of the two connectives, as shown in the following modified table cited from her study:

Type	Syntactic pattern[6]	Function		Total
		Ideational	Interactional	
1	*yinwei...suoyi...*	24 (60%) [28.6%]	16 (40%) [5.6%]	40 [10.8%]
2	*...suoyi...*	20 (14.3%) [23.8%]	120 (85.7%) [41 7%]	140 [37.6%]
3	*...yinwei...*	23 (14.6%) [27.4%]	134 (85.4%) [46.5%]	157 [42.2%]
4	*yinwei...*	17 (68%) [20.2%]	8 (32%) [2.8%]	25 [6.7%]
5	*suoyi...*	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 2. Form and function distributions of *yinwei* and *suoyi*

4.2. Preposed vs. Postposed

Quite a handful of recent studies focus on the discourse options related to clause combining. Chafe (1988) points out that connectives may precede as well as follow the clause to which they are linked, depending on the discourse functions they perform. Chafe (1984) suggests that the functions of adverbial clauses vary their functions according to their syntactic position and their semantic connectiveness to the main clause. A preposed adverbial clause (positioned before the main clause with which it is associated), e.g., the first and the fourth types in Table 3 represents a limitation of focus, signaling a path or orientation in terms of which the following information is to be understood. A postposed clause (placed after the main clause with which it is associated), e.g., the third and the sixth types in Table 2, modifies or adds, on the other hand, something to the assertion made by its associated material. Ford (1993) uses the conversation analytic model to study the interactional nature as displayed in American English adverbial clauses. The three interactional factors identified in the study are: the management of the direction of the conversation, the roles of the parties in the conversation, and the connection of talk across speakers

The discourse-pragmatic links that bind adverbial clause (ADV-clause) to their immediate or less immediate clausal context deal with coherence and grounding with regard to referential and thematic coherence (Su 1998b). The strands that bind coherent discourse constitute, in fact, a system of pragmatic relations between clauses and their immediate and remote discourse context – either anaphoric ('preceding') or

cataphoric ('succeeding'). Such a system involves first the grounding of clauses in their anaphoric context, which entails cognitively access to the stored text. The system also involves anticipation of the cataphoric context, which entails cognitively the allocation of attention to particular chunks of currently-processed information in anticipation of yet-to-come discourse. The grammar of inter-clausal coherence codes all these aspects of connected discourse, which is reflected clearly in the preposed vs. postposed distinction of the adverbial clauses.

The different discourse functions performed by the preposed vs. postposed ADV-clauses is well echoed in Thompson (1985). According to Thompson, the distribution of purpose clauses in English, i.e., the syntactic position of the ADV-clause, dictates its discourse function. Initial clauses are functioning to guide the attention of the reader by signaling how s/he is expected to associate the material following the purpose clause with the material preceding it. The final clauses do not have the same function but have instead a very localized and different one: it only serves to state the purpose for which the action named in the main clause is undertaken.

Ramsay (1987) further suggests that the scope of the coherence strands is much narrower for post-posed ADV-clauses, based on the comparison of the discourse-pragmatic behavior of preposed and postposed ADV-clauses in written English narrative. The strands are more semantic in that postposed ADV-clauses tend to be more closely integrated into the meaning structure of their main clauses. Pragmatically, the connections of preposed and postposed ADV-clauses to their discourse context are not the same. Postposed purpose clauses tend to refer to the motivation of the main-clause agent, and preposed purpose clauses have in contrast a wider and less predictable scope of reference. In contrast, preposed ADV-clauses seem to have wider scope in terms of anaphoric contextual grounding. Both their referential and thematic links project far backward into the preceding discourse.

Chinese ADV-clauses perform different discourse functions depending on their distribution in the sentence, a point clearly addressed in the following tables by Hsieh (1999):

	Preposed	Postposed	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[7]	5 (83.3%) [11.6%]	1 (16.7%) [0.6%]	6 [2.9%]
Floor-Holding[8]	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[9]	0 (--) [--]	9 (100%) [5.6%]	9 [4.4%]
Total	43 (21%)	162 (79%)	205

Table 3. The distribution of *yinwei* in conversation

	Preposed	Postposed	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 4. The distribution of *suoyi* in conversation

It is evident from these tables that *yinwei* (79%), like *suoyi* (97%), is more often postposed in natural discourse, which is quite a surprising finding. Based on Table 3, we also learn that the postposed use of *yinwei* are primarily reserved to fulfill its discourse function of providing further explanation (60.5%), and floor-holding (15.4%). The preposed use of *suoyi* is, relatively speaking, not as striking as *yinwei*. It is more prone to appear in the preposed position when used as a topic initiator (60%). Both the postposed *yinwei* and the preposed *suoyi* – the two connectives placed respectively in their non-canonical syntactic positions – do not fulfill in natural discourse all the

pragmatic functions identified. Among the three functions directly related to sequentiality of utterances, i.e., floor-holding, floor-taking and turn-justification, postposed *yinwei* shows a higher frequency (15.4%) for floor-holding, and preposed *suoyi* a higher frequency (20%) for floor-taking. Such finding is of particular interest to us for the reason that floor-holding and floor-taking are two notions that come in pair in human communication. Because these two connectives display more sequentiality sensitive connectives in discourse, the analysis for their interactional/pragmatic uses is, in comparison to that for *ranhou*, a more detailed and in-depth one. Instead of grouping them under one big cover category by its function, we came up with a scheme which includes all the discourse features related to the sequential aspects of talk exchange.

A more interesting finding is that while 100% of *suoyi* appear in its default position (postposed) for its semantic function of consequential use, only 53.9% of *yinwei* is found for similar use as a semantic connective of causality. This seems to suggest that *yinwei* displays more interesting discourse uses rather than *suoyi*, a connective typically marking consequentiality.

5. SEQUENTIALITY AND COHERENCE

The questions followed naturally from Hsieh's study (1999) is this: what may be the discourse factors, if any, that may determine whether an adverbial would occur preposed or postposed? Why are *yinwei* not placed, most of the time, in its canonical order (79% of them appear in postposed ADV-clauses), whereas *suoyi* tends to occur in the systematic position where we expect it to be (97% postposed)? If the semantic use of *yinwei* dictates its occurrence in the preposed position, then can we say *yinwei* as a causal connective is, compared to its counterpart, *suoyi*, more prone to its pragmatic use in discourse?

Table 5, adapted and modified based on Hsieh's (1999) study, displays clearly the different discourse functions performed by *yinwei* and *suoyi* in conversation:

	yinwei		*suoyi*		Total	
Causal/Consequential	49	(23.9%)	33	(19.8%)	82	Ideational (22%)
Further Explanation	108	(52.7%)	71	(42.5%)	179	Interactional (78%)
Topic Initiator	6	(2.9%)	5	(2.9%)	11	
Floor-Holding	27	(13.2%)	16	(9.6%)	43	
Floor-Taking	6	(2.9%)	20	(12.0%)	26	
Turn-Justification	9	(4.4%)	22	(13.2%)	31	
Total	205	(55.1%)	167	(44.9%)	372 (100%)	

Table 5. The functional distribution of *yinwei* and *suoyi*

It's evident from Table 5 that the ideational/semantic *yinwei* and *suoyi*, constitutes their total occurrences and they don't necessarily appear in pair in discourse. Both *yinwei* (52.7%) and *suoyi* (42.5%) are mainly used pragmatically in order to provide further explanation. *Yinwei* is also used frequently to hold the speech floor (13.2%), but *suoyi* is, on the other hand, used for floor-taking (12.0%) and for turn justification (13.2%).

A closer look at our results reveals that *ranhou* and *yinwei...suoyi* are quite different regarding their discourse functions. Only as low as 30% is seen in the interactional use of the former. In comparison, discourse plays a much more major role in the use of the latter. For this reason, the study of the latter becomes more significant and interesting. It may provide us with more clues into the mystery of language processing and interpretation. The iconic relationship between syntax and discourse may be more evident from the study of such connectives in use.

A strong preference in discourse production toward recounting events is in an order that unites their relevance-time and occurrence-time (Givón 1993). This preference is the human communicative norm. The relatively few events that are deemed relevant at some other time are counter-normative. In the processing of off-sequence events, two separate but equally valid aspects of text coherence come into sharp conflict: a) the current relevance-point of the event and b) the natural script-coherence of the event. In the vast majority of normal cases, these two aspects of text coherence go hand in hand. That is, an event is deemed relevant, and is thus recounted, at its natural script-point. But if the speaker decided that an event is more currently relevant at some off-sequence point, the two aspects of text coherence are brought into sharp conflict, which presumably incurs additional cognitive costs.

It should be clear that sequential constraints are not easily stated on the form or meaning of what is said; utterances have to be "translated" into the underlying actions they perform. It is doubtful that there exist rules of a syntactic nature governing conversational sequencing. Even if such rules were found, they would not give anything but a partial account of constraints on conversational sequences. Conversation is not a structural product in the same way that a sentence is; it is rather the outcome of the interaction of two or more independent, goal-directed individuals, with often divergent interests.

Obligatory sequencing is thus not to be found between utterances but between the actions that are being performed (Labov and Fanshel 1977). Both sequential context and extra-linguistic context can play a crucial role in the assignment of utterance function. We must rely on some immensely complex inferential process that utilizes information of many different kinds. And this is where coherence comes into play.

Interpretation of the connectives lies, as our study demonstrates, outside the utterance itself in its sequential location in the conversation. Our analysis shows how surrounding conversational structure can impose rich interpretations on utterances, and semantic interpretation is only a small and probably not the most complex aspect of the communicational significance of an utterance.

Viewed from the perspective of language processing, the means of coherence include: (1) logical relations such as causality and class inclusion; (2) knowledge of how events, actions, objects, and situations are organized; and (3) the striving for continuity in human experience." This implies that human beings make use of the connectives such as *ranhou* to organize events, and *yinwei/suoyi* for logical relations of causality. Connective as such meet the demands of the preference for coherence in human communication – toward the sequential order in saying things most "visible" in terms of temporal and causal coherence. At the same time, such discourse use of these connectives manifest well the interactional nature of human communication.

6. CONCLUSION

The present study examines the meaning of Chinese temporal and causal connectives from a pragmatic perspective. We have argued that senses often associated with the encoded semantics of such connectives are in fact inferrable with the inclusion of conversational implicatures, which are cancelable in certain discourse contexts. The analysis therefore redraws in radical fashion the semantics-pragmatics boundary as it applies to the meaning of temporal and causal markers. Studies such as the present one are necessary in order to expand our general understanding of language in use. An interactive view of language is crucial to the study of grammar and is valuable in the advances of theoretical linguistics.

The functional approach to grammar assumed here views grammar as shaped by language use, and the mechanism by which this shaping occurs is frequent repetition. This is the so-called "emergent grammar" by Hopper (1988):

> Grammar is a set of sedimented conventions that have been routined out of more frequently occurring ways of saying things. These repetitions come to be recognized as grammatical when enough of them can be identified which turn out to be useful, adaptive and prestigious.

In the same view, Huang (2000) pointed out that sequentially sensitive discourse markers constitute as one type of pre-compiled repetitions, and grammar, as the emergent product of discourse, is interactional and hence distributed over participants, their environment and context. We echo Huang's view in that speakers exploit syntactic and other linguistic resources in the immediate discourse context for cognitive and pragmatic ends. A similar opinion is expressed earlier by Du Bois' study (2000).

In fact, "everyday talk is the accomplishment of conversational coherence" (Craig and Tracy 1983). It should be clear now that coherence cannot be understood if attention is limited just to linguistic form and meaning: it is a mental entity concerning production and comprehension of the text (Givón 1995). It is the joint creation and display of connectivity between utterances, so that what one says can be understood as to have

followed sensibly from what the other has said. Explanations for language structure are sought in a general principle that rests ultimately upon human rationality. Both the constituents of discourse structure and their orderly arrangement as coherent text is thus crucial because of the impact of communicative principles on the linguistic realization of speaker meaning at different points in time.

Study of sequentiality with a focus on interaction between speakers, text and context does have its counterpart in descriptions and models of the respective mental structures and processes within the individual speaker's mind A large amount of preferred sequences are mentally stored to constrain inferences and thus reduce cognitive effort. An interdisciplinary perspective on the phenomenon of sequentiality should be encouraged so as to further our understanding of the complex processes involved in discourse production and understanding.

Notes

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[1] IU stands for intonation unit. The transcription convention used here is by and large that of J. Du Bois (1991). "Transcription Design Principles for Spoken Discourse Research." *Pragmatics* 1(1): 71-106.

[2] For the uses of *ranhou* at local and global levels and for then other uses, please see Su (1998a).

[3] The use of *ranhou* as a verbal filler is quite common and is normally found at the turn-initial position. Speakers do, though rarely, use this as a device to hold the speech floor, but it is more often used as a verbal filler - as a discourse marker to gain some planning time for the following discourse. We make no distinction between the two usages of *ranhou* here. *Ranhou* as a filler marks, in fact, the beginning of a new idea. The choice of this connective as a filler here in this example (2) is, of course, meaningful, evidenced in the sequential nature of the speech content that follows.

[4] The instances where the function of *ranhou* is not limited to one single use abound in our data. We did not in this study take the overlapping into consideration. All tokens in Table 1 associate only with one function.

[5] Other pragmatic functions of *yinwei* and *suoyi* are listed in table 3 and table 4. For examples, please see Hsieh (1999).

[6] The criteria used to decide the syntactic patterns where *yinwei* and *suoyi* occur need explaining here. TC (Topic Chain), a concept developed in Su (1998b) is chosen here as the spoken equivalent of "sentence".

[7] Topic initiation is different from the topic-succession function associated with *ranhou*. Topic – initiation refers to situation where a new topic, usually of no direct relevance to the previous discourse, is brought up by the speaker in the exchange.

[8] The function of floor-holding here sometimes resembles that of a filler, as identified previously for *ranhou*. Yet, we feel that the causal connectives function more than a verbal filler of zero semantic content and should somehow be differentiated.

[9] Floor-taking and turn-justification differ mainly in the position where they occur. Floor-taking may occur at a place where a new turn is not expected.

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