

# Topic as a grammatical function in Chinese\*

One-Soon Her

*Executive Communication Systems (ECS), 455 N. University Ave., Suite 202, Provo, UT 84601, USA*

Received September 1990; revised version February 1991

This paper contests the inconsistent use of 'topic' in referring to a syntactic as well as a semantic notion in the literature of Chinese linguistics. We propose that 'topic' be reserved as a grammatical function, a syntactic notion parallel to 'subject' and 'object', as it is used in LFG, Lexical-Functional Grammar. We propose the term 'frame' to refer to the semantic or discoursal function encoded by the syntactic topic. Furthermore, we provide evidence for the argument that TOPIC, as a grammatical function in LFG, should not be considered subcategorizable in Mandarin Chinese, contrary to the proposal made by Huang (1989), who observed a small number of verbs requiring topics. We illustrate some of the syntactic generalizations that our analysis can maintain, which would be missed by the analysis of subcategorizable TOPIC. Finally we employ the theories of lexical diffusion and linguistic interaction (Hsieh 1990) to give a tentative account of the linguistic factors facilitating the idiosyncratic behavior of these verbs.

## 1. Introduction

In the literature of Chinese linguistics there is an inconsistency in the use of 'topic', in referring to a syntactic as well as a semantic notion, which therefore often leads to imprecise generalizations regarding topic. To correct this problem, we propose that 'topic' be reserved as a grammatical function, a syntactic notion parallel to 'subject' and 'object', as it is used in Lexical-Functional Grammar (LFG). Also, the term 'frame' is proposed for the semantic or discoursal function encoded by the syntactic topic. Furthermore, we argue that TOPIC, as a grammatical function in LFG, should not be

\* This paper is a revised version of portions of chapter 2 of my dissertation, written at the University of Hawaii. I am grateful for the support of ECS, Inc. Also, I would like to thank Drs. Robert Cheng, Larry Browning, Chu-Ren Huang, and Joseph Pentheroudakis for their constructive comments and suggestions. Similarly, comments due to the editors of *Lingua* have led to improvement. Special thanks to Dr. Hsin-I Hsieh for keeping me informed of his theory of interaction. However, I am of course solely responsible for the content in this paper.

subcategorizable in Mandarin Chinese, contrary to Huang's (1989) proposal based on two dozen or so Chinese verbs that seem to require topics. We will suggest an alternative analysis that allows no subcategorized topic and show that an analysis of subcategorizable TOPIC only complicates the grammar of Chinese and misses several syntactic and semantic generalizations. Finally, employing the theory of lexical diffusion in language change and the newly-launched theory of linguistic interaction (Hsieh 1989), we will seek a preliminary account of the linguistic factors facilitating the idiosyncratic behavior of these verbs.

## 2. Topic as a syntactic notion

In an attempt to dispense with the SOV word order in Mandarin Chinese, Her (1985–86) has pointed out that in previous discussions of Chinese word order there is a confusion of syntax and semantics in the use of 'subject' and 'object'. Often an agent or actor is taken to be the subject and patient or theme the object. In other words, subject and object, as syntactic notions, are often not defined in syntactic terms. In general, the use of the term 'topic' in Chinese linguistics is confusing in similar ways.

In numerous discussions of Chinese linguistics, authors use 'topic' without specifying whether they are referring to a syntactic notion or a semantic one, and judging from the contexts in which 'topic' is used one often finds that it is intended as both. This inconsistency can easily lead to imprecise, untestable generalizations and also makes it difficult, if not futile, to compare different claims. Cheng (1983), for instance, although an otherwise insightful discussion on syntactic devices encoding the semantic function of focus in Chinese, makes no explicit statement regarding whether 'topic' is a syntactic notion or a semantic one. His statement that *shi*-predication serves to distinguish a topic from a subject suggests that topic is a syntactic notion parallel to subject. Assertions like 'the topic is the slot for unfocused elements' (1983: 97) also imply that topic is a syntactic device encoding unfocused information. However, from the many sentences that he gives as examples of topicalization one has to conclude that topic is also used as a semantic notion. The two sentences of (1a–b) are examples of what Cheng considers topics (shown in brackets).

- (1a) [Wo<sup>3</sup> du<sup>4</sup>le<sup>jia</sup> de di<sup>4</sup>fang] shi<sup>4</sup> Mao<sup>2</sup>yi<sup>1</sup>.  
 I vacation DE place be Maui  
 'The place where I vacationed was Maui.'

- (1b) [Zuo2tian1 shang1hai4 ta1 de ren2] shi4 Lao3Wang2.  
 yesterday harm he DE person be Laowang  
 ‘The person that harmed him yesterday was Laowang.’

First of all, *shi4* is recognized as the main verb in both sentences. If topic is a syntactic notion here, the preverbal element, if taken to be the topic, cannot be the subject at the same time (for the same obvious reason the subject cannot be the object at the same time). If I am right in assuming that Cheng also recognizes that the constituents enclosed in brackets are subjects of *shi4*, then he must be using ‘topic’ as a semantic notion here.

Within the field of modern generative linguistics, subject and object are notions within the domain of syntax, not semantics. Chomsky’s use of ‘logical subject’ and ‘logical object’ is thus unfortunate in terms of their imprecision and subjectivity. Although it should be recognized that there may be some correlation between certain semantic characteristics and the selection of grammatical relations (e.g. Dowty 1987, Bresnan and Kanerva 1989), a syntactic category and its semantic function should not be confused. Chu (1984: 137) initially voiced the same concern about this unsound confusion (translation mine):

‘When talking about subject and object, one has to make sure what subject and object are. While it may be easy to define “semantic subject” and “semantic object”, it is rather difficult to define “syntactic subject” and “syntactic object”!’

However, we must also object to Chu’s use of the terms ‘semantic subject’ and ‘semantic object’. That an agent-like or actor-like NP is the subject and a theme-like or patient-like NP is the object is a rather common misconception. The obscure status of subject and topic in Chinese linguistics can be indirectly attributed to the exaggerated prominence of topic in the description of Chinese. Chao (1968: 69) states that the semantic relation of subject and predicate in Mandarin is that of topic and comment. Thus, though not expressed explicitly by Chao, it will have to be assumed that to him ‘topic’ is a semantic concept and ‘subject’ a syntactic one, with a correspondence as depicted below.

SYNTACTIC RELATION:	SUBJECT	PREDICATE
	↓	↓
SEMANTIC FUNCTION:	TOPIC	COMMENT

However, when Li and Thompson (1981: 15) declare that Mandarin is a 'topic-prominent' language typologically different from 'subject-prominent' languages such as English, it is unclear whether they consider 'topic' a syntactic or semantic notion. Their statement 'in addition to the grammatical relations of "subject" and "direct object", the description of Mandarin must also include the element "topic"' (ibid.) indicates that topic is a syntactic notion parallel to that of subject and object; yet, they go on to characterize topic in semantic terms as if it were a semantic notion. The dilemma here is that if they consider topic a semantic notion, then the dichotomy of 'topic-prominent' languages versus 'subject-prominent' languages would be meaningless since topic and subject are now notions of two different domains, one of semantics, the other syntax. In order for this dichotomy to be significant, topic and subject would have to be parallel notions within the same level of linguistic description. Since it is well established that subject is a syntactic notion, it follows that topic should be deemed a syntactic notion as well.

This issue has gained more attention recently, after Her (1985–86) voiced the concern and stated explicit definitions of topic, subject and object as syntactic notions in a rigid lexicalist framework. Li (1988) explicitly recognizes topic as a semantic notion and subject as a syntactic one, while Huang (1989) explicitly states that both topic and subject are to be taken as syntactic notions, following the convention of Lexical-Functional Grammar. Tsao (1987) and earlier papers on Mandarin topics clearly treat topic as a discourse notion beyond the scope of sentences. Although we do not object to any well-defined use of the term 'topic', we have to stress the futility and confusion caused by an undefined use of the term.

The important question overlooked and thus unresolved by those who do not treat topic as a syntactic notion, such as Tsao (1987), Li (1988), Li and Thompson (1981) and Chao (1968), is what topic, as a semantic or discourse notion, corresponds to in terms of grammatical relations in syntax. Let's look at the following famous example of topic from Li and Thompson (1976). Again, the topic is enclosed in brackets.

- (2) [Nei4 chang2 huo3] xing4kui1 xiao1fang2dui4 lai2 de kuai4.  
 that CLS fire fortunate fire-brigade come DE quick  
 'That fire, fortunately the fire-brigade came quickly.'

The unresolved question is: what is the syntactic, grammatical function of *nei4 chang2 huo3*, the initial NP? It is certainly not subject nor object. Following Her (1985–86) and Huang (1989), we propose that 'topic' strictly

refer to a syntactic relation. This is also the position of the LFG theory, where topic is taken to be a grammatical function. Furthermore, we recommend the use of ‘frame’ to denote the semantic/discourse function of topic, following Her (1989) where he, incorporating observations by Cheng (1983), presents the following generalizations on subject, topic, frame, and focus in Chinese.

- (1) Frame is a semantic/discoursal notion which denotes old or background information.
- (2) Focus is a semantic/discoursal notion which denotes new or foreground information.
- (3) The unmarked order in Mandarin is old/background information before new/foreground, and general (/whole/universe) preceding specific (/part/scope).
- (4) Topic is a syntactic notion. The topic of a sentence, being always preverbal and before the subject, usually encodes the semantic/discoursal frame; however, when a topic encodes contrast, which is a semantic notion subsumed by focus, it does not encode frame, for instance,

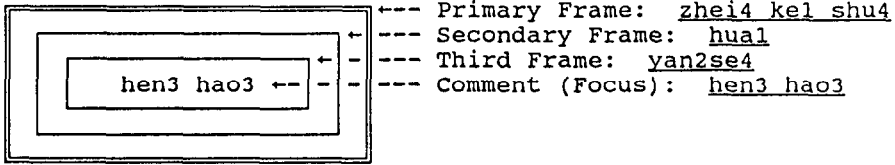
Ying1wen2 wo3 hui4, ke3shi4 fa4wen2 wo3 bu2 hui4  
 English I know but French I not know  
 ‘English I know, but French I don’t.’

- (5) Subject is always preverbal; therefore, according to (3) above, if there is no topic, its unmarked function is likely to be frame encoding background information, unless there are discoursal principles or phonological principles dictating otherwise.
- (6) The most prominent position in a Chinese sentence is its predicate, whose unmarked semantic function is thus the focus.

Therefore, in Li and Thompson’s example above, *nei4 chang2 huo3* ‘that fire’ is syntactically the topic which encodes the semantic function of frame. Chao’s (1968: 69) famous statement could now be extended: the semantic relation between topic/subject and predicate in Chinese is that of frame and comment. Chafe (1976: 50) characterizes the semantic function of the topic as that of setting ‘a spatial, temporal or individual framework within which the main predication holds’. What we have done here is to name that semantic function ‘frame’ and to reserve the term ‘topic’ for its grammatical function, a syntactic notion. Within our defined use, a subject cannot be the topic, and vice versa, for they are two parallel notions; yet, while a topic may encode the semantic function of frame, so may the subject. When there is no topic present, the subject may well be interpreted as the frame semantically or

discoursally, which confirms Chao's observation. The term 'frame' also nicely accommodates the topic-chain construction where a series of pre-subject elements, topics, collectively function as the interpretive framework of the main predication. Sentence 3 below is an example.

- (3) Zhei4 ke1 shu4, hua1, yan2se4 hen3 hao3.  
 this CLS tree flower color very nice  
 'The flowers of this tree have very nice colors.'



In a topic-chain construction, conceptually the discursal interpretive frame is being progressively confined by successive secondary frames. Hence, *hen3 hao3* is to be interpreted within the frame of *yan2se4* 'colors'. *Yan2se4 hen3 hao3* 'colors are very nice' is to be interpreted within the frame of *hua1* 'flowers', and *zhei4 ke1 shu4* 'this tree' is the primary frame within which the entire sentence is to be interpreted.

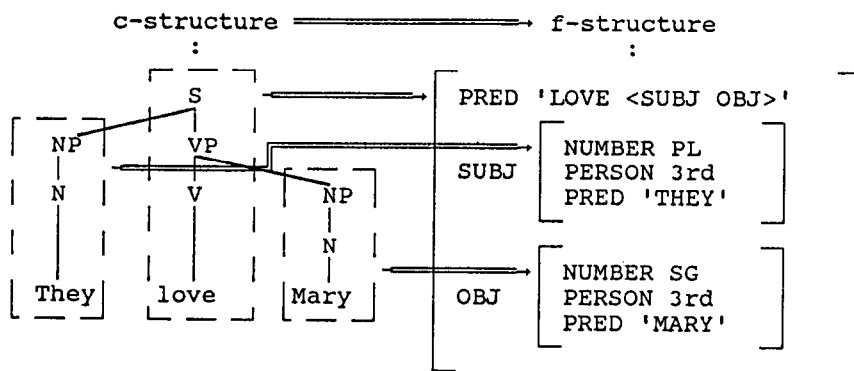
Incidentally, to be fair, we would like to repeat a concern voiced in Her (1985–86): the confusion of grammatical relations and their semantic functions in the use of 'topic', 'subject', and 'object' is certainly not unique to Chinese linguistics; rather, it is unfortunately common in typological studies, such as word order, in the Greenbergian tradition. A more precise and well-defined use of these terms can no doubt provide more lucid and revealing results.

### 3. Subcategorizability of TOPIC in Chinese

We have argued thus far that it is best to treat topic as a syntactic notion in Mandarin Chinese. The LFG use of TOPIC is completely compatible with our position that TOPIC is a grammatical relation parallel to subject and object. In LFG, however, a grammatical function must be further classified as either subcategorizable or non-subcategorizable. The universal grammar specifies that a grammatical function cannot be both subcategorizable and non-

subcategorizable in any given language. It is therefore necessary for us to determine whether TOPIC is subcategorizable in an LFG description of Chinese.

LFG assigns two levels of syntactic representation to a sentence: a constituent structure (c-structure) and a functional structure (f-structure). While the c-structure reflects the phrasal hierarchy and linear ordering in a sentence, the f-structure is an abstraction of the grammatical and functional information away from both phrasal constituency and ordering. It is in the f-structure that grammatical functions like TOPIC, SUBJ and OBJ are presented. The following illustration depicts the correspondence between the c- and f-structure, or the co-description of c- and f-structures, of the sentence 'They love Mary'.



A sentence must have well-formed c-structure as well as f-structure to be grammatical. While phrase structure rules regulate c-structures, LFG also posits certain well-formedness conditions on f-structures: Consistency, Completeness, and Coherence. The Completeness and Coherence conditions are directly related to the concept of subcategorizable grammatical functions.

*Consistency (or Functional Uniqueness):*

In a well-formed f-structure, an attribute may have at most one value.

*Completeness*

An f-structure is locally complete if and only if it contains all the subcategorizable grammatical functions that its predicate subcategorizes for. An f-structure is complete if and only if all its subsidiary f-structures are locally complete.

### *Coherence*

An f-structure is locally coherent if and only if all the subcategorizable grammatical functions that it contains are subcategorized for by a local predicate. An f-structure is coherent if and only if all its subsidiary f-structures are locally coherent.

Notice that, while a subcategorizable function in an f-structure has to obey the conditions of Completeness and Coherence, a non-subcategorizable function never does. Furthermore, although all grammatical functions are allowed to take an f-structure as their value, only non-subcategorizable, adjunctive functions may be exceptions to the Consistency condition and take a set of values (Kaplan and Bresnan 1982: 215). Subcategorizable functions have to observe this condition.

We should point out that the concept of subcategorization in LFG is somewhat different from its use in Government and Binding Theory (GB). In LFG subcategorization is stipulated in terms of grammatical functions and all required functions, including non-thematic ones, are taken to be subcategorized (Bresnan 1982b: 288–292). GB recognizes only ‘strict subcategorization’, whose features must be ‘strictly local’ in the deep structure, a constituent structure. Thus, subject, which is not a constituent dominated by VP, according to the rule:  $S \rightarrow NP VP$ , is regarded as the outer or external argument and thus non-subcategorizable; only inner or internal arguments can be subcategorized. In Chinese, topics, being even more peripheral than subjects, cannot be subcategorized arguments within the GB framework.

Similar to the position taken in the theory of Head-driven Phrase Structure Grammar (HPSG) where subjects are treated as subcategorized arguments (Pollard and Sag 1987), in LFG, although VP is still a recognized category, the strict locality of subcategorized functions is required in the f-structure, not the c-structure. Since the verb is the lexical head of the f-structure of its clause, which, unlike the deep structure VP in GB, does contain the function SUBJ locally, subject can be subcategorized (Ford et al. 1982: 773). In fact, the Universal Subject Constraint in the Lexical Mapping Theory actually requires that in the predicate argument structure of a verb there be one thematic role that maps to the SUBJ function (Bresnan and Kanerva 1989). This constraint in effect requires SUBJ to be universally subcategorizable.

Since TOPIC, like SUBJ, may also appear locally with the head verb in an f-structure, it is entirely acceptable for it to be subcategorized. Bresnan (1982b: 287–288) proposes that the subcategorizability of TOPIC functions as a parameter that distinguishes ‘topic-oriented’ languages from ‘subject-



oriented' languages, a typological dichotomy echoing that of 'topic-prominent' languages versus 'subject-prominent' languages (Li and Thompson 1976). If Li and Thompson's (1987) claim that Chinese is a topic-prominent language can be supported in the LFG framework, then TOPIC as a grammatical function indeed should be subcategorizable. In the remainder of this paper we will argue against such a position.

The only discussion in the literature on the subcategorizability of TOPIC in Mandarin Chinese is Huang (1989), where he presents some twenty Mandarin Chinese verbs that seem to require a topic for their sentences to be complete. Based upon such data, Huang argues that these verbs subcategorize for a TOPIC in Mandarin Chinese. The following are two examples of such verbs discussed by Huang.

- (4a) Zhei4 jian4 shi4, ni3 zuo4zhu3.  
 this CLS matter you make-master  
 'You'll take charge of this matter.'
- (4b) \*Ni3 zuo4zhu3.  
 you make-master  
 \*'You'll take charge of.'
- (4c) \*Ni3 zuo4zhu3 zhei4 jian4 shi4.  
 you make-master this CLS matter  
 'You'll take charge of this matter.'
- (5a) Yu3yan2xue2, ta1 na2shou3.  
 linguistics he take-hand  
 'He is good at linguistics.'
- (5b) \*Ta1 na2shou3.  
 he take-hand  
 \*'He is good at.'
- (5c) \*Ta1 na2shou3 yu3yan2xue2.  
 he take-hand linguistics  
 'He is good at linguistics.'

According to this data, Huang analyzes these verbs as having a subcategorization pattern of < TOPIC SUBJ >. Note that in LFG even if there is only one lexical item that subcategorizes for a grammatical function, such a function would have to be subcategorizable in that language. We have no disagreement with Huang's data which conform with native speakers' intuition faithfully; yet, we are rather hesitant to accept his conclusion that verbs

like *zuo4zhu3* subcategorize for a TOPIC and thus TOPIC should be considered subcategorizable in Mandarin Chinese. Such an analysis has serious implications that may be in direct conflict with other well-established facts in Mandarin Chinese.

First of all, concerning Huang's data, we should point out that (4b) and (5b), although in isolation they do seem odd and incomplete, like many Chinese sentences with missing arguments, are acceptable if given an appropriate discourse context. In the following dialogue, due to the discursively rich context, both (4b) and (5b) are acceptable responses.

- (6a) Q: Zhei4 jian4 shi4, ni3 cai1 shei2 zuo4zhu3?  
 this CLS matter you guess who make-master  
 'Guess who takes charge of this matter?'  
 (6b) A: Ni3 zuo4zhu3. (4b)  
 you make-master  
 'You do.'
- (7a) Q: Zhei4 shi4 yin1wei4 yu3yan2xue2 shei2 zui4 na2shou3?  
 this be because linguistics who most take-hand  
 'And this is because who is best at linguistics?'  
 (7b) A: Ni3 zui4 na2shou3. (5b)  
 you most take-hand  
 'You are.'

This is not a trivial point to make because, as it is commonly accepted (Pollard and Sag 1987), the strongest test for a constituent to be considered as subcategorized-for by a head verb is the obligatory co-occurrence of this constituent and the verb. Therefore, if it were a fact that the topic of verbs like *zuo4zhu3* is indeed always obligatory, our position that TOPIC should not be classified as a subcategorizable function would be considerably weakened. However, since in Chinese arguments are often not overt, this observation of course by no means indicates that TOPIC is therefore not subcategorized.

A much more serious problem is that the notion of subcategorized TOPICs in Chinese presents a conflict with the well-formedness conditions on f-structures. The Coherence Principle requires that a subcategorizable function be subcategorized at all times in an f-structure. For instance, in English whenever there is a SUBJ in an f-structure, that SUBJ has to be subcategorized by some element on the same level of the f-structure for the f-structure to be

coherent. The almost non-restrictive use of topics in Chinese sentences cannot possibly fulfill such a rigid but necessary requirement. Observe the occurrences of TOPICs (shown in brackets) in the following examples.

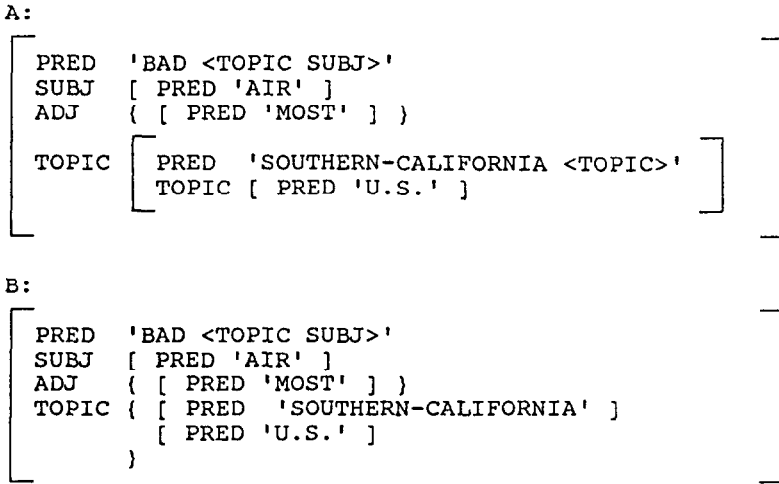
- (8a) [Yu2], wo3 zhi3 xi3huan1 zhun1yu2.  
 fish I only like trout  
 'When it comes to fish, I only like trout.'
- (8b) [Zhang1san1], wo3 hui4 ma4 ta1.  
 Zhangsan I will scold him.  
 'Zhangsan, I will scold him.'
- (8c) [Mei3guo2], wo3 you3 qin1qi4.  
 U.S. I have relatives  
 'In the U.S., I have relatives.'
- (8d) [Na4chang2 che1huo4], wo3men tai4 xing4yun4 le.  
 that CLS car-accident we too lucky LE  
 'Talking about that car accident, we were too lucky.'

To put it simply, virtually all well-formed Chinese sentences without a topic can have a topic attached to the sentence-initial position. To make TOPIC subcategorizable would mean that not only all verbs in Mandarin Chinese subcategorize for a TOPIC but also that, except the twenty-odd verbs noted by Huang, all other verbs subcategorize for TOPIC only optionally. Such an analysis certainly bears no linguistic merit and would make the claim of subcategorized TOPICs vacuous.

Another potential problem arises from the topic-chain construction in Mandarin Chinese. In the following examples, the portion in brackets is the first topic, and the portion in parentheses is the second topic.

- (9a) [Xiao3shi2hou4], (yu2), wo3 zhi2 chi1 zun1yu2.  
 Childhood fish I only eat trout  
 'In my childhood, when it came to fish, I would only eat trout.'
- (9b) [Zhei4 jian4 shi4], (Zhang1san1), ta1 mei2 you3 cuo4.  
 this CLS matter Zhangsan he not have fault  
 'Regarding this matter, Zhangsan is not at fault.'
- (9c) [Mei3guo2], (nan2jia1zhou1), kong1qi4 zui4 huai4.  
 U.S. south-California air most bad  
 'In the U.S., southern California has the worst air.'
- (9d) [Nei4 ke1 shu4], (hua1), yan2se4 hen3duo1.  
 that CLS tree flower color many  
 'The flowers of that tree have many colors.'

If TOPIC is taken to be a subcategorizable function, in a topic-chain construction all topics would have to be subcategorized. The relationship between the first and the second topic is certainly not that of coordination. Thus, within this analysis there are two possible f-structures, one with a topic containing another, the other with TOPIC taking a set of f-structures as its value. Taking (9c) as an example, we illustrate these two options as A and B respectively.



If the first one is taken to be the right f-structure, then it implies that all nouns in Chinese must subcategorize a TOPIC function, again optionally; another vacuous proposal indeed. However, if the second f-structure is taken to be the correct one, then TOPIC must be recognized as another exception to the consistency condition, a characteristic rather unique to non-subcategorizable adjunctive functions. None of the other subcategorizable functions, such as SUBJ and OBJ, may violate the Consistency condition. Therefore, given a subcategorizable TOPIC, neither of the two possible f-structures is appropriate for the topic-chain construction. On the other hand, if TOPIC is non-subcategorizable, then either of the two f-structures is workable, although given our previous description of the semantic function of frames syntactically encoded by topics the first choice, where the primary frame is contained within the secondary frame is more appropriate.

#### 4. An analysis with non-subcategorizable TOPIC

Based upon the arguments above, we reject the notion of subcategorized TOPICs in Mandarin Chinese and maintain that in that language the function TOPIC is non-subcategorizable. Yet, we still have to account for the idiosyncratic behavior of verbs such as *zuo4zhu3* ‘take charge of’ and *na2-shou3* ‘be good at’. The solution we propose still recognizes verbs like *zuo4zhu3* as subcategorizing for  $\langle \text{SUBJ OBJ} \rangle$ . Because TOPIC is usually a placeholder of old, or background, information, we designate an attribute-value pair of [BACKGROUND +] in TOPIC through the appropriate phrase structure rule. On the other hand, since OBJ is always encoded in a postverbal position, embedded in the predicate of a clause, we designate [BACKGROUND –] in OBJ, again through the appropriate phrase structure rule. In order to make sure that the OBJ is always ‘missing’ and that it is anaphorically controlled by the matrix TOPIC and thus satisfies Completeness and Coherence conditions, in the lexical entries of verbs like *zuo4zhu3*, we impose a constraint to ensure that there be an attribute-value pair of [BACKGROUND +] in its OBJ. In Chinese it is rather common for TOPIC to anaphorically control an unbounded missing function; such long distance dependency is indicated by the functional equation  $(\uparrow \dots) = \downarrow$ . The lexical entry of *zuo4zhu3* and relevant phrase structure rules are shown below.

**zuo4zhu3**    V  
           (↑ PRED) = 'TAKE-CHARGE-OF <SUBJ OBJ>'  
           (↑ OBJ BACKGROUND) =<sub>c</sub> +

S' ->        XP                        S  
           (↑ TOPIC) = ↓                ↑ = ↓  
           (↓ BACKGROUND) = +  
           (↑ ...) = ↓

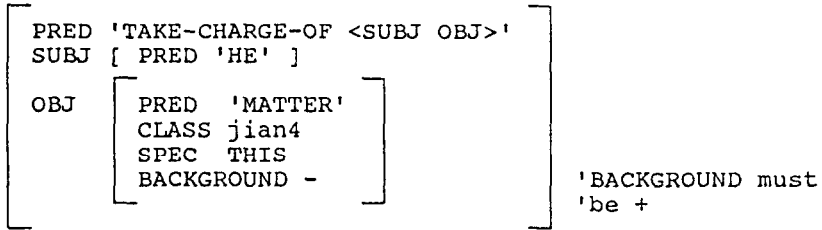
S ->        (NP)                VP  
           (↑ SUBJ) = ↓     ↑ = ↓

NP ->        V                (NP)  
           ↑ = ↓     (↑ OBJ) = ↓  
                           (↓ BACKGROUND) = -

The verb does not subcategorize for a TOPIC; rather, it subcategorizes for SUBJ and OBJ, with the constraint (indicated by =<sub>c</sub>) that in the f-structure OBJ must contain the attribute-value pair [BACKGROUND +]. Accordingly, the f-structures of (4c) and (5c) are ill-formed since their OBJs are

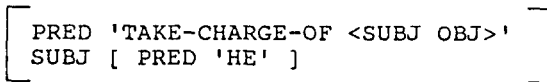
overt and thus have [BACKGROUND -], which is in direct conflict with the above functional constraint that requires [BACKGROUND +] in *zuo4-zhu3*'s OBJ. The ill-formed f-structure of (4c) is illustrated in (4c-fs.) below.

- (4c-fs.) \*Ta1 zuo4zhu3 zhei4 jian4 shi4.  
'He'll take charge of this matter.'



The violation of this constraint can also account for the ungrammaticality of (4b) and (5b) whose f-structures contain neither OBJ nor TOPIC. The f-structure of (4b) is shown below as (4b-fs.). When there is no TOPIC available to anaphorically control the unbounded OBJ, the OBJ certainly will not contain the required [BACKGROUND +]. In addition to the violation of this functional constraint, the f-structures of (4b) and (5b) also violate the Completeness Condition due to the absence of the subcategorized OBJ.

- (4b-fs.) \*Ta1 zuo4zhu3.  
\*'He'll take charge of.'



In essence, our solution still recognizes that verbs like *zuo4zhu3* require two thematic roles which map into the grammatical functions SUBJ and OBJ, and thus entirely avoids the problems that Huang (1989) has recognized in linking thematic roles to the TOPIC function in the Lexical Mapping Theory of LFG. Compared to other verbs of similar meanings such as *fu4ze2* 'be

responsible for', semantic generalizations therefore remain. The difference between *zuo4zhu3* and *fu4ze2* is thus purely syntactic, in that *zuo4zhu3* may never take an overt OBJ and its required OBJ has to be satisfied by its anaphoric control relation with the matrix TOPIC. Notice this is precisely how the missing OBJ of *fu4ze2* of (10a) below is satisfied. Thus, in our analysis, (4a) is entirely equivalent to (10a) in terms of thematic structure and c- and f-structures.

- (4a) Zhei4 jian4 shi4, ni3 zuo4zhu3.  
 this CLS matter you make-master  
 'You'll take charge of this matter.'
- (4b) \*Ni3 zuo4zhu3.  
 you make-master  
 \*'You'll take charge of.'
- (4c) \*Ni3 zuo4zhu3 zhei4 jian4 shi4.  
 you make-master this CLS matter  
 'You'll take charge of this matter.'
- (10a) Zhei4 jian4 shi4, ni3 fu4ze2.  
 this CLS matter you be-responsible-for  
 'You'll be responsible for this matter.'
- (10b) \*Ni3 fu4ze2.  
 you be-responsible-for  
 \*'You'll be responsible for.'
- (10c) Ni3 fu4ze2 zhei4 jian4 shi4.  
 you be-responsible this CLS matter  
 'You'll be responsible for this matter.'

Furthermore, it may be generalized that the incompleteness of (4b) and (10b) alike arises from the unfulfilled OBJ, not the unfulfilled TOPIC. The identification of a missing OBJ with the matrix TOPIC is a rather general rule in Chinese, as exemplified in the following sentences, and thus no special specification is needed to identify the missing OBJ of verbs like *zuo4zhu3* with its matrix TOPIC.

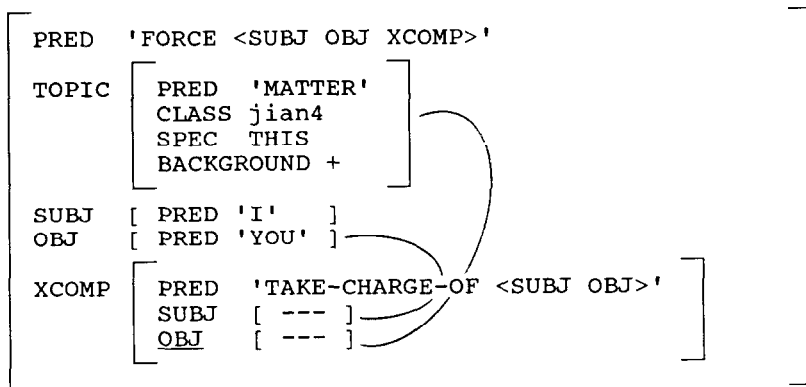
- (11a) Xiao3hai2zi, ta1 hui4 xi3huan1.  
 kids he will like  
 'Kids, he will like.'

- (11b) Huai4 dian4ying3, wo3 bu4 yao4 ta1 kan4.  
 bad movie I not want he see  
 'Bad movies, I don't want him to see.'
- (11c) Zhei4 jian4 shi4, wo3 qiang2po4 ni3 fu4ze2.  
 this CLS matter I force you responsible  
 'I force you to be responsible for this matter.'
- (11d) Zhei4 jian4 shi4, wo3 qiang2po4 ni3 zuo4zhu3.  
 this CLS matter I force you make-master  
 'I force you to take charge of this matter.'

Complex sentences like (11d) that involve verbs like *zuo4zhu3* in a subordinate clause actually provide another argument for our solution. In our analysis, *zuo4zhu3*, just like *xi3huan* 'like', *kan4* 'see' and *fu4ze2* 'be responsible for', subcategorizes SUBJ and OBJ; thus, (11a-d) are all treated the same, with the OBJ in the embedded non-finite VP (known as XCOMP in LFG) missing, and this OBJ is anaphorically controlled by the matrix TOPIC. However, if *zuo4zhu3* is to subcategorize for TOPIC instead of OBJ, then while it is the missing OBJs in (11a-c)'s XCOMP that are anaphorically controlled by the matrix TOPIC, it is the missing TOPIC in (11d)'s XCOMP that has to be linked with the matrix TOPIC. The following f-structure of A illustrates our analysis of (11d), and B shows the f-structure containing the ad hoc subcategorized TOPIC.

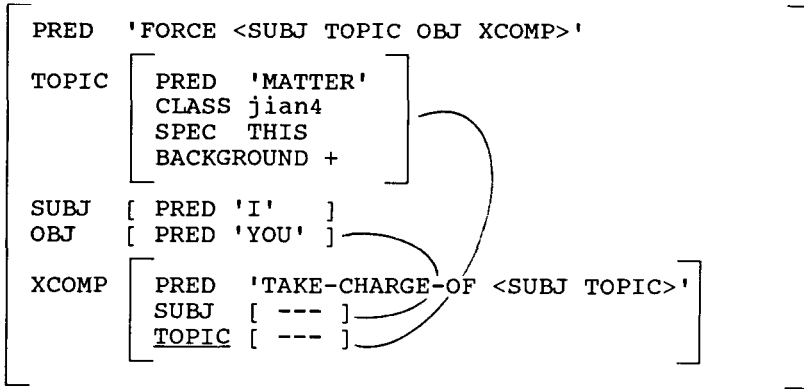
(11d-fs.)

A:





B:



Aside from missing the generalization that (11a–d) share the same c- and f-structures, another dilemma arises from the analysis of subcategorized TOPIC: in the XCOMP it is actually impossible for verbs like *zuo4zhu3* to have the required TOPIC, as shown in (12) below.

- (12a) \*Ta1 hui4 zhei4 jian4 shi4 zuo4zhu3.  
 he will this CLS matter make-master  
 'He will take charge of this matter.'
- (12b) \*Wo3 qiang2po4 ni3 zhei4 jian4 shi4 zuo4zhu3.  
 I force you this CLS matter make-master  
 'I force you to take charge of this matter.'

Observation of relative clauses and the pseudo-cleft construction also indicate that our solution captures the generalizations while an account of subcategorized TOPIC misses them.

- (13a) Ta1 fu4ze2 de shi4 shi1bai4 le.  
 he be-responsible DE matter fail LE  
 'The matters that he was responsible for failed.'
- (13b) Ta1 zuo4zhu3 de shi4 shi1bai4 le.  
 he make-master DE matter fail LE  
 'The matters that he took charge of failed.'

(13a) and (13b) have the equivalent c- and f-structures in our analysis; the missing OBJ of the relative clause is to be identified with the relativized noun phrase by long distance dependency rules. Yet, if *zuo4zhu3* subcategorizes for TOPIC, then (13a) and (13b) would have very different f-structures; while *fu4ze2*'s missing OBJ is considered relativized, it is the TOPIC of *zuo4zhu3* that is relativized. Therefore, for (13a–b), long distance dependency rules would have to identify two different relativized elements.

- (14a) Ta1 fu4ze2                    de bu2 shi4 na4 jian4 shi4.  
 he be-responsible DE not be that CLS matter  
 ‘What he is responsible for is not that matter.’
- (14b) Ta1 zuo4zhu3                de bu2 shi4 na4 jian4 shi4.  
 he make-master DE not be that CLS matter  
 ‘What he takes charge of is not that matter.’

Again, (14a) and (14b) would have the same c-structure but not the same f-structure if *zuo4zhu3* subcategorizes TOPIC but *fu4ze2* OBJ; in (14a) it would be the missing OBJ that is identifiable with the NP within the *shi4* predicate, while it would have to be the missing TOPIC in (14b). Within our analysis, however, the two pseudo-cleft sentences in (14) are equivalent in both c- and f-structures, with the missing OBJ of the headless relative clause identifiable with the NP of the *shi4* predicate.

## 5. Lexical diffusion and linguistic interaction

With the understanding that a comprehensive account of the synchronic and diachronic factors that facilitate the idiosyncratic behavior of verbs like *zuo4zhu3*, most of which are VO ([Verb + Object]) compounds, is beyond the scope of this paper and that a more thorough examination of the various syntactic behaviors of VO compounds is a prerequisite for such a task, here we will suggest a tentative explanation in the lexical diffusion theory (Wang 1969, Chen and Wang 1975) and the interaction theory (Hsieh 1989, 1990).

VO compounding is recognized as one of the word formation mechanisms in Chinese, where the object is incorporated into the verb to form a single lexical unit (e.g. Chao 1968, Li and Thompson 1981). While the majority of VO compound verbs are intransitive and do not allow objective postverbal NPs, some of these verbs do behave transitively; *jie2hun1* ‘marry’ is an

example of the former and *fu4ze2* ‘be responsible for’ the latter. However, the small number of verbs like *zuo4zhu3* ‘take charge of’ do not fit in either category.

- (15) A: jie2 ‘to tie’ + hun1 ‘marriage’ → jie2hun1  
 B: fu4 ‘to bear’ + ze2 ‘responsibility’ → fu4ze2  
 C: zuo4 ‘to make’ + zhu3 ‘master’ → zuo4zhu3

(16a) Ta1 gen1 ma3li4 jie2hun1.

he with Mary marry  
 ‘He marries Mary.’

(16b) \*Ta1 jie2hun1 ma3li4.

he marry Mary  
 ‘He marries Mary.’

(16c) \*Ma3li4 ta1 jie2hun1.

Mary he marry  
 ‘He marries Mary.’

We already showed in (10) that *fu4ze2* may take either an overt object or a missing object anaphorically controlled by the matrix topic. Verbs like *zuo4zhu3* are interesting in that they seem to be ‘semi-transitive’: they require an object and yet do not allow it to be lexically overt. We stipulate that there are two competing rules, depicted as A and B in (17) below, governing the VO compounding word formation process and that the ‘semi-transitivity’ of verbs like *zuo4zhu3* is due to the on-going competition of these two conflicting rules.

[V incorporates OBJ] → V:  $\left[ \begin{array}{l} \text{A. [- TRANSITIVE]} \\ \text{B. [+ TRANSITIVE]} \end{array} \right.$

The incorporation process is thus viewed as a phenomenon of linguistic change: the reanalysis of a syntactic structure as a morphological one. The theory of lexical diffusion maintains two key concepts, (1) that all changes take time to complete, and (2) conflicting changes may compete for their domain of influence (Hsieh 1989). We surmise that the morphological incorporation of object in compounds like *zuo4zhu3* is relatively recent, and therefore at the present time the two rules are undergoing full competition.

To put it in formal terms in LFG, so far the Intransitive Rule (17A) has affected these verbs only in the domain of c-structure and the competing Transitive Rule (17B) has affected the f-structure. As a result, they subcategorize for OBJ on the functional level and yet do not allow lexically overt postverbal objective NPs in the c-structure.

Based on the LFG division of grammar and Tai's (1985, 1989) discovery of the significance of iconic principles in Mandarin Chinese, Hsieh (1990) inferred a four-way division of grammar: iconic (or conceptual) structure, thematic structure, functional structure, and constituent structure and proposed to view irregularities in historical syntactic changes and variation in synchronic syntactic behaviors as manifestations of the never-ending internal interaction of various types, e.g. competition and complementation, among the distinct components within the grammar. Chang (1990 a,b) has supported this line of thinking by showing that variations in Chinese serial-verb and verb-coping constructions can be best described in terms of interactive, and often competing, principles in distinct components: iconic, thematic and categorial.

The variation of transitivity among VO compounds may prove to be another case supporting this interaction theory. Because of the intransitive nature of their c-structures, verbs like *zuo4zhu3* cannot take a lexically overt postverbal objective NP; consequently, the only way that the OBJ required by the f-structure can be fulfilled is by an anaphoric control relation with the matrix TOPIC. As we have posited in our previous LFG analysis, in their lexical entries, verbs like *zuo4zhu3* hence must contain the following constraint: ( $\uparrow$  OBJ BACKGROUND) = <sub>c</sub> + , to ensure the existence of the matrix TOPIC that anaphorically controls their OBJ, and also to rule out a lexically overt, structurally assigned OBJ, which would contain [BACKGROUND -]. The idiosyncratic behavior of such verbs is thus due to the interaction between the c-structure requirement and the f-structure requirement.

As for transitive VO compounds like *fu4ze2* 'be responsible for', the Transitive Rule (17B) has prevailed in both c- and f-structures, while the Intransitive Rule (17a) has been fully realized in intransitive VO compounds like *jie2hun1* 'marry'. Of course another logical consequence due to this interaction is VO compounds whose c-structure is influenced by (17B) and thus transitive but whose f-structure is intransitive due to (17A) and does not subcategorize for OBJ. Nonetheless, we find no such cases in Chinese VO compounds, nor will we find such verbs in any other language, in fact. Such a consequence necessarily leads to an incoherent f-structure since the lexically

overt, structurally assigned OBJ, a universally subcategorizable function, is not subcategorized for. The universal grammar therefore predicts that the interaction between the two rules in (17) will never yield such a consequence.

## 6. Conclusion

We have proposed that ‘topic’ be a syntactic notion and argued that as a grammatical function in LFG it cannot be subcategorizable in Chinese. Although the data that Huang (1989) has observed regarding a small but interesting set of Chinese verbs that seem to require the occurrence of topics are correct, his conclusion that therefore these verbs subcategorize for topics cannot be accepted without serious compromises. Given the conditions of Consistency and Coherence in LFG and the fact that nearly all Chinese verbs may co-occur with topics, we render TOPIC non-subcategorizable in Chinese.

To account for Huang’s data, we treat these verbs as subcategorizing for SUBJ and OBJ. By imposing a functional constraint on the OBJ, we are able to account for the fact that this OBJ cannot be lexically overt and that it has to be anaphorically controlled by the matrix topic. Furthermore, we have shown that, within complex sentences, relative clauses, and pseudo-cleft constructions, our analysis still captures the generalizations of similar syntactic and semantic behaviors, while an account of subcategorizable TOPIC would fail to do so.

Lastly, we adopt the theories of lexical diffusion and linguistic interaction to tentatively account for the factors facilitating the idiosyncratic behavior of VO compounds like *zuo4zhu3* and also the variation of transitivity among VO compounds in general and note that a more comprehensive examination of the various syntactic behaviors of VO compounds is necessary before definite conclusions are drawn.

## References

- Bresnan, J. (ed.), 1982a. The mental representation of grammatical relations. Cambridge, MA: MIT Press.  
 Bresnan, J., 1982b. Control and complementation. In: J. Bresnan (ed.), 282–390.

- Bresnan, J. and J. Kanerva, 1989. Locative inversion in Chichewa: A case study of facturization in grammar. *Linguistic Inquiry* 20(1), 1–50. Also appeared as CSLI Report No. CSLI-88-131. Stanford, CA: CSLI, Stanford University.
- Chafe, W. L., 1976. Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In: C. Li (ed.), 25–55.
- Chang, C., 1990a. On serial verbs in Mandarin Chinese: VV compounds and co-verbal phrases. Paper presented at the Ohio State University Mini-Conference on Serial Verbs, Columbus, Ohio, May 26–27, 1990.
- Chang, C., 1990b. Verb copying: Towards a balance between formalism and functionalism. Paper presented at the Annual Meeting of the Chinese Language Teachers Association, Nashville, Tennessee, November 17–19, 1990.
- Chao, Y., 1968. *A grammar of spoken Chinese*. Berkeley and Los Angeles, CA: University of California Press.
- Chen M. and W. Wang, 1975. Sound change: Actuation and implementation. *Language* 51, 225–281.
- Cheng, R., 1983. Focus devices in Mandarin Chinese. In: T. Tang, R. Cheng, Y. Li (eds.), *Hanyu jufa yuyixue lunji* (Studies in Chinese Syntax and Semantics, Universe and Scope: Presupposition and Quantification in Chinese), 50–102. Taipei: Student Book Co.
- Chu, C., 1979. Definiteness, presupposition, topic and focus in Chinese. Paper presented at 1979 MLA-CLTA, San Francisco.
- Chu, C., 1984. Chinese word order and its change. *Yuyan Yanjiu* 6, 115–127.
- Dowty, D., 1987. Thematic proto-roles, subject selection, and lexical semantic defaults. Paper presented at the 1987 LSA Annual Meeting.
- Ford, M., J. Bresnan and R. Kaplan., 1982. A competence-based theory of syntactic closure. In: J. Bresnan (ed.), 727–796.
- Her, O., 1985–86. To dispense with OV word order in Mandarin Chinese: A lexicase analysis. *Papers in East Asian Languages* 3, 17–47.
- Her, O., 1989. Focus devices in Chinese revisited. Unpublished manuscript. ECS, Inc.
- Her, O., 1990. Grammatical functions and verb subcategorization in Mandarin Chinese. Ph.D. dissertation. University of Hawaii.
- Hou, J., 1979. Grammatical relations in Chinese. Ph.D. dissertation. University of Southern California.
- Hsieh, H., 1989. History, structure, and competition. Paper presented at the Eighth International Workshop on Chinese Linguistics, POLA, University of California, Berkeley. March 20–21, 1989.
- Hsieh, H., 1990. In search of a grammatical foundation for dialect subgrouping. *Proceedings of the First International Symposium on Chinese Language and Linguistics*, 146–167, Academia Sinica, Taipei, Taiwan.
- Huang, C., 1989. Subcategorized topics in Mandarin Chinese. Paper presented at the 1989 CLTA Annual Meeting, November 17–19, Boston, MA.
- Kaplan, R. and J. Bresnan., 1982. Lexical-Functional Grammar: A formal system for grammatical representation. In: J. Bresnan (ed.), 173–281.
- Li, C. (ed.), 1976. *Subject and topic*. New York: Academic Press.
- Li, C. and S. Thompson, 1976. Subject and topic: A new typology of language. In: C. Li (ed.), 457–489.

- Li, C. and S. Thompson., 1981. *Mandarin Chinese: A functional grammar*. Berkeley, CA: University of California Press.
- Li, Y., 1988. *Hanyu zhubin guannian de zai tantao* (Subject and object in Chinese revisited). *Proceedings of the 2nd International Conference of Teaching Chinese*, 298–304. Beijing: Beijing Language Institute Publishing Co.
- Pollard, C. and I. Sag, 1987. *Information-based syntax and semantics, Vol. I. Fundamentals*. CSLI Lecture Notes No. 13. Stanford, CA: CSLI, Stanford University.
- Sells, P., 1985. *Lectures on contemporary syntactic theories*. Stanford, CA: CSLI, Stanford University.
- Shieber, S., 1986. *Introduction to unification-based approaches to grammar*. Stanford, CA: CSLI, Stanford University.
- Starosta, S., 1985. Mandarin case marking. *Journal of Chinese Linguistics* 13(2), 215–266.
- Tai, J., 1985. Temporal sequence and Chinese word order. In: J. Haiman (ed.), *Iconicity in syntax*, 49–72. Amsterdam: Benjamins.
- Tai, J., 1989. Towards a cognition-based functional grammar of Chinese. In: J. Tai, F. Hsueh (eds.), *Functionalism and Chinese grammar*, 187–226. Chinese Language Teachers Association Monograph Series No. 1.
- Tsao, F., 1978. Subject and topic in Chinese. In: Cheng et al. (eds.), *Proceedings of the Symposium of Chinese Linguistics, 1977* Linguistic Institute of LSA. Taipei: Student Book Co.
- Tsao, F., 1979. *A functional study of topic in Chinese*. Taipei: Student Book Co.
- Tsao, F., 1987. A topic-comment approach to the BA construction. *Journal of Chinese Linguistics* 15(1), 1–54.
- Wang, W., 1969. Competing changes as a cause of residue. *Language* 45, 9–25.