

## METAPHOR OR FUNCTION? BLEACHING OR GAINING?

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### 1. INTRODUCTION

The most common passive structure in contemporary Chinese is formed by changing the word order and using the grammatical marker *bei*. Active and passive structure are thus related in the following way:<sup>1</sup>

(1) *a. Active structure*

NP1 + V + NP2

*b. Passive structure*

NP2 + *bei* + (NP1) + V

The aim of this paper is to show how *bei*, a transitive verb meaning 'cover' in Old Chinese, became grammaticalized as a passive marker in Modern Chinese. To the best of my knowledge, the first mention of grammaticalization is in Meillet (1912), where the term is defined as follows:

The development of grammatical forms by progressive deterioration of previously autonomous words is made possible by ... a weakening of the pronunciation, of the concrete sense of the words, and of the expressive value of words and groupings of words. The ancillary word can end up as an element lacking independent meaning as such, linked to a principal word to mark its grammatical role.

From this point of view, grammaticalization is a sort of semantic impoverishment --- a process whereby signs lose their integrity (Lehmann, 1985). Other researchers endorsing Meillet's view frequently use such terms as 'desemanticization', 'bleaching', 'semantic weakening', 'attrition', and 'degradation' in describing the phenomenon in question.

Recent work on grammaticalization and the semantics of grammatical terms (Traugott, 1982 and elsewhere; Bybee and Pagliuca, 1985; Heine and Hunnemeyer, 1988; Sweetser, 1988) is characterized by a movement away from the earlier position that the process involves substantial loss of semantic content (Heine and Reh, 1984; Givon, 1979). Many linguists argue for the inherent meaningfulness of grammatical words, rejecting the view of grammaticalization as bleaching or loss of semantic content. New approaches to semantics and pragmatics, highlighting the systematicity of

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grammaticalization, have shown that it exploits devices common to other kinds of linguistic change. In addition to describing the nature of the change, linguists have tried to describe HOW and WHY grammaticalization occurs. Some hold that metaphor is the key to understanding the phenomenon (Heine and Hunnemeier, 1988; Sweetser, 1988). Others maintain that the process of change is a strengthening of pragmatic inferences to relevance, rather than metaphor or bleaching (Traugott, 1989).

My goals in this paper are: a) to explicitly characterize the semantic steps involved in the grammaticalization of *bei*; and b) to evaluate how well various theories account for the change from one step to the other.

## 2. THE DATA CONCERNING THE SEMANTIC CHANGE OF 'BEI'

In its original use, *bei* was a noun meaning 'blanket', as indicated in *Shuo-Wen-Jie-Zi*, the earliest Chinese etymological dictionary:

- (2)      bei,      qin      yi      ye.  
           blanket sleep covering      particle  
           'Bei means blanket.'

*Bei* is still used as a noun today. However, because of the fact that blankets are things that cover us during sleep, *bei* came to be used as a verb meaning 'to cover' (Wang, 1980). It first appeared in about 770 B.C., as seen in the following examples:<sup>2</sup>

- |   |   |
|---|---|
| (3) a. tian bei er lu.<br>God cover you luck<br>'God covers you with blessing.'<br>(Shi-Jing, about 770 B.C.)                           | b. Fu-zi bei zhi ye.<br>teacher cover him particle<br>'The teacher covered him (with the clothes).'<br>(Guo-Yu, about 550 B.C.) |
| c. gao-lan bei jing xi.<br>flower name cover path particle<br>'The gao-lan flowers covered the path.'<br>(Chu-Ci, about 340 - 240 B.C.) | d. ze bei sheng-min.<br>bounty cover common people<br>'Bounties covered the common people.'<br>(Xun-Zi, about 313 B.C.)         |

It was in the time of *Chu-Ci* (about 340 - 240 B.C.) that *bei* underwent a semantic change from a physical verb meaning 'cover' to a mental verb meaning 'suffer', as seen in follows:

- |  |  |
|--|--|
| (4) a. Shen-sheng xiao er bei yang.<br>Shen-sheng dutiful but suffer disaster<br>'Although Shen-sheng was dutiful, (he)<br>suffered disaster.'<br>(Chu-Ci, about 340 - 240 B.C.) | b. (wu) chang bei jun zhi wo-qia.<br>(I) once undergo emperor of bounty<br>'(I) once underwent the Emperor's<br>bounties.'<br>(Chu-ci, about 340 - 240 B.C.) |
|--|--|

<sup>2</sup> In an effort to remain faithful to the original Chinese both in meaning and in syntactic structure, I will give glosses that sometimes diverge from standard English.

- c. chu fei-dao zhi wei, place wrong way of position  
 bei zhong-kou zhi zen suffer many mouth of slander  
 '(If you are) in a wrong position, (you will) suffer the slander of everyone.'  
 (Han-Fei-Zi, about 280 B.C.)
- d. qin wang fu ji ge, bei ba chuang.  
 Qin king again attack Ge suffer eight wound  
 'King Qin attacked Ge again, and (Ge) suffered eight wounds (as a result).'  
 (Zhan-Guo-Ce, about 200 B.C.)
- e. di xiao ren zhong, land little man many  
 bei shui han zhi hai suffer water drought of harm  
 'with little land but a large population you used to) suffer damage of flood and drought.'  
 (Shi-ji, 104 B.C.)
- f. Tang wei tian-zi da-chen, bei e-yan er si.  
 Tang be king minister suffer slander then die  
 '(Although) Tang was a minister of the King, (he) suffered slander to such an extent that (he) died.'  
 (Han-Shu, 32 A.D.)

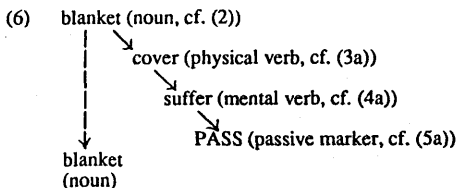
It was in about 200 B.C. that *bei* began its gradual change into a grammatical word functioning as a passive marker. But, throughout this period of development it was used both as a verb meaning 'suffer' and as a passive marker. It was only after 100 A.D. that the verb *bei* gradually fell into disuse. But *bei* has continued to be used as a passive marker, even to this day, as seen in the following examples.<sup>3</sup>

- (5) a. guo yi ri bei gong, country one day PASS attack  
 'If the country is attacked some day.'  
 (Zhan-Guo-Ce, 200 B.C.)
- b. wan cheng zhi guo bei ten-thousand chariot NOM state PASS  
 wei yu Zhao surround LOC Zhao  
 'A state of ten thousand chariots has been surrounded in Zhao.'  
 (Zhan-Guo-Ce, 200 A.D.)
- c. xin er jian yi, zhong er bei bang.  
 honest but PASS suspect loyal but PASS slander  
 'The honest are suspected and the loyal are slandered.'  
 (Shi-Ji, 104 B.C.)
- d. jiu-rang bei zhen.  
 earth PASS shake  
 'The earth was shaken.'  
 (San-Guo-Zhi, 233 A.D.)
- e. wang-wu-zi bei ze.  
 Wang-wuzi PASS blame  
 'Wang-wuzi was blamed.'  
 (Shi-Shuo-Xin-Yu, 444 A.D.)
- f. fan jian bei shao.  
 vassal warship PASS burn  
 'vassals' warships were burnt.'  
 (Nan-Shi, 618 A.D.)

Schematically, the development process of *bei* from a noun into a passive marker was described by (6):<sup>4</sup>

<sup>3</sup> PASS = passive marker; NOM = nominalized marker; LOC = locative marker.

<sup>4</sup> It should be noted that an overlapping period exists between the different developing stages, especially in the historical development of languages.



It should be noted that passive sentences in Modern Chinese are not in general neutral in the way that they are in English. Rather, they carry an implication of disadvantage for the subject (Wang, 1980), as shown by the examples in (7):

- (7) a. ta bei che-zhi le.  
       he PASS fire ASP  
       'He was fired.'
- b. wo de biao bei tou le.  
       I GEN watch PASS steal ASP  
       'My watch was stolen.'

In Chinese, generally speaking, active sentences instead of passive sentences are employed to express fortunate or happy senses so far as the subject is concerned, as seen in (8) and (9):

- (8) a. \*ta bei ni ai.  
       he PASS you love  
       'He is loved by you.'
- b. ni ai ta.  
       you love him  
       'You love him.'
- (9) a. \*ni bei wo gong-he  
       you PASS I congratulate  
       'You are congratulated by me.'
- b. wo gong-he ni.  
       I congratulate you  
       'I congratulate you.'

Further evidence for the claim that Chinese passive sentences are associated with an adversitive meaning comes from comparing the original Mongolian version of *Meng-Gu-Mi-Shi* (The History of Mongolia), the first book on the history of Mongolia, with its Chinese version which was published in the Yuan Dynasty (1271- 1368 A.D.) when China was in the hands of the Mongolians. Significantly, not all the passive sentences in the Mongolian version were rendered as the corresponding Chinese passive sentences. The Chinese passive structure was used only for those sentences expressing adversity. The remaining passive sentences in the original version were replaced by active sentences (Haenisch, 1933).

It should also be noted that before *bei* was adopted as a passive marker, other Chinese passive structures were semantically neutral. That is to say, they were not always employed to express adversity, as can be seen from the example in (10):

- (10) ai ren zhe bi jian ai.  
       love man -er must PASS love  
       'The one caring about the others will surely be loved by the others.'  
       (Mo-Zi, 400 B.C.)

It was only after *bei* became a passive marker that the passive structure in Chinese came to be used exclusively to express adversity.

The historical process illustrated by the grammaticalization of *bei* in Chinese raises various general questions: What connects one meaning with another, and how does semantic change occur? Even given a concrete-to-abstract direction, how does one element in the concrete domain become associated with a specific abstract meaning, rather than with some other meaning? How do meanings shift within a domain? The following sections address such questions, seeking to improve our understanding of both semantic relatedness and semantic change, based on an in-depth analysis of the development of the passive structure in Chinese.

### 3. THE DEVELOPMENT OF 'BEI' FROM AN ACTION VERB INTO A PASSIVE MARKER

As shown in section 2, in the process of developing from an action verb into a passive marker, *bei* underwent two major changes: a) it changed from a physical verb 'cover' (cf. the examples in (3)) to a mental verb 'suffer' (cf. the examples in (4)); and b) it changed from a mental verb 'suffer' to a passive marker (cf. the examples in (5)). In this section, I examine each of these changes more closely, beginning with the first.

#### 3.1 ON SEMANTIC PROPERTIES OF PHYSICAL AND MENTAL VERBS

The sentences in (3) and (4) belong to two completely different domains. The former express an action in the physical domain with a physical verb while the latter express a state in the mental domain with a mental verb. Before we can explain how 'cover' changed into 'suffer', we need to have a clear understanding of the semantic difference between physical and mental verbs.

(3a) is the earliest example I have discovered of *bei* being used as an action verb. The subject *tian* 'God' is an agent, i.e. an animate entity engaged in an activity. The object *er* 'you' is the patient, i.e. the entity affected by the action of the verb. As for *lu* 'luck', its semantic role is less obvious. According to Fillmore's (1968) criteria, this nominal would be classified as an instrument. However, Fillmore's position has been rejected by many linguists. In the framework outlined in Foley and Van Valin (1984), which draws on the work of Jackendoff (1976), Dowty (1979) and others, *lu* would be considered a 'effector-theme', which by their definition is essentially the located entity or the entity that undergoes a change of location. Under Foley and Van Valin's theory, the logical structure of (3a) might be something like: God intentionally does something to you which causes you to become covered with luck.

Basically identical to (3a), the subject of (3b) *fu-zi* 'teacher' is an agent and its object *zhi* 'him' is a patient. What this sentence shows is that the effector-theme can be omitted in the 'Agent-V-Patient' structure. Thus the logical structure of (3b) is: the teacher intentionally does something which causes him to become covered (with the clothes). (3c) and (3d) differ from (3a) and (3b) in that the latter are agentive whereas the former are not. The subjects of (3c) and (3d), *gao-lan* 'flower' and *ze* 'bounty', are effector-themes. According to Foley and Van Valin, the objects, *jing* 'path' in (3c) and *sheng-min* 'common people' in (3d), are both locatives because the subjects of these sentences are effector-themes. Within their framework, if there are two participants and the subject is an agent, the usual pattern is 'Agent-V-Patient'. In this case, *bei* is an agentive physical verb (hereafter 'cover1'). On the other hand, if the subject is an effector-theme, the pattern is 'Effector-theme --- V --- Locative'. The semantic relationship between the participants is inherently locative. *Bei* in this case is a non-agentive physical verb (hereafter 'cover2').

I depart from Foley and Van Valin in that I treat *sheng-min* 'common people', the object in (3d), as an experiencer rather than a locative. The semantic feature differentiating experiencer from locative is humanness. The experiencer is human (or perhaps animate), while the locative is non-human.

The sentences in (3) exemplify two different predicate-argument structures: a) an agentive physical one in which the subject has the semantic features animate, volitional, controlling, etc. (cf. (3a) and (3b)); and b) a non-agentive physical one in which the subject has the semantic features inanimate, non-volitional, non-controlling, etc. (cf. (3c) and (3d)). The only semantic feature that the subjects have in common is non-affectedness. As for the objects in (3), although they realize different semantic roles, i.e. patient, locative or experiencer, they are semantically alike in being affected and concrete. The main difference is that the patient is the object of an agentive physical event whereas locatives and experiencers are the objects of non-agentive physical events. Moreover, the locative is semantically non-human, the experiencer is necessarily human, and the patient may be either human or non-human.

In sum, the semantic roles associated with the nominals in (3) are as follows:<sup>5</sup>

- (11) a. *tian bei er lu.* (= 3a)      b. *Fu-zi bei zhi ye.* (=3b)  
 AG      PA E-T                      AG      PA  
 God cover1 you luck              teacher cover1 him particle  
 'God covers you with blessings.'    'The teacher covered him (with clothes).'
- c. *Goa-lan bei jing xi.* (= 3c)      d. *ze bei sheng-min.* (=3d)  
 E-T                      LOC                      E-T                      EX  
 flower name cover2 path particle    bounty cover2 common people  
 'The Gao-lan flowers covered the path.' 'Bounties covered the common people.'

The functions and features of these semantic categories are given in (12):

- (12) a. Agentive physical event (3a-b):      b. Non-agentive physical event (3c-d):  
 Subject + Verb + Object                      Subject + Verb + Object  
 AG    [+agentive]    PA                      E-T    [-agentive]    LOC or EX  
 [+animate]    [+action]    [+/-human]    [-animate]    [+action]    [-human]    [+human]  
 [+volitional]                      [+affected]    [-volitional]                      [+affected]    [+affected]  
 [-affected]                      [+concrete]    [-affected]                      [+concrete]    [+concrete]

Being entirely different from (3), the sentences in (4) express an event in the mental domain with a mental verb (suffer). In (4), the subjects are all experiencers and the objects are all stimuli. In technical terms, a stimulus comes into mental contact with a mind of the experiencer, and this sets off a complex chain of events in the mental system of the experiencer. Since the crucial feature of this process is the contact between the stimulus and the experiencer, mental activity may be viewed as having an experiencer as an essential facet. Accordingly, we will analyze mental verbs as having an experiencer as a key component of their meaning. The semantic relations inherent in an experienced relationship are effector-theme and experiencer. As the stimulus is in contact with the experiencer, the stimulus is a effector-theme. The

<sup>5</sup> AG = agent; PA = patient; E-T = effector-theme; LOC = locative; EX = experiencer.

semantic roles of (4a) are then as shown in (13):

- (13) shen-sheng xiao er bei yang. (= 4a)  
 EX E-T  
 Shen-sheng dutiful but suffer disaster  
 'Although Shen-sheng was dutiful, (he) suffered disaster.'

It should be noted that although the arguments in (13) are effector-theme and experiencer, the relation involved is one in which the experiencer 'Shen-sheng' is a sentient entity in whose mind the mental event occurs and the effector-theme 'disaster' functions as a stimulus for the mental event. The two arguments in (13) are connected by two relations: 'Shen-sheng'(EX) directs his attention to 'disaster'(E-T) and 'disaster' causes a mental event in the mind of 'Shen-sheng'.

Summarizing to this point, the semantic differences between the physical domain and the mental domain are as shown in (14):

- |                          |         |           |                   |         |           |
|--------------------------|---------|-----------|-------------------|---------|-----------|
| (14) a. Physical domain: |         |           | b. Mental domain: |         |           |
| Subject +                | Verb +  | Object    | Subject +         | Verb +  | Object    |
| AG/E-T                   |         | PA/EX/LOC | EX                |         | E-T       |
| -affected                | +action | +affected | +affected         | -action | -affected |
|                          |         | +concrete |                   |         | -concrete |

### 3.2 THE SHIFT FROM A PHYSICAL VERB TO A MENTAL VERB

Having now a clear idea of the semantic properties of the physical and mental domains, we can consider the question of what connects the meaning of a physical verb with that of a mental verb, and how semantic change occurs.

First let us see how the concept of metaphor fares in accounting for the change of *bei* from a physical verb into a mental verb. Metaphor has been shown to play an important role in many types of grammaticalization. According to Sweetser (1988), semantic change is brought about by a metaphorical extension from a source domain to a target domain in which the meaning preserved is a topological, image-schematic structure. Metaphor, however, also seems to be involved in semantic changes that do not result in grammaticalization. Many semantic changes with content words can be seen as metaphorical, even though the new meaning is not more 'grammatical' in any sense. On the other hand, not all instances of grammaticalization can be characterized as metaphorical. Consider the following examples:

- |   |     |                    |            |  |     |                    |            |
|---|-----|--------------------|------------|--|-----|--------------------|------------|
| (15)a. fu-zi                                  | bei | shen-sheng         | yi(≈ (3b)) | b. fu-zi                                       | bei | shen-sheng         | ze(≈ (3a)) |
| AG  |     | PA                 | E-T        | AG   |     | PA                 | E-T        |
| teacher cover1 shen-sheng clothes             |     |                    |            | teacher cover1 shen-sheng bounty               |     |                    |            |
| 'The teacher covers Shen-sheng with clothes.' |     |                    |            | 'The teacher covers Shen-sheng with bounties.' |     |                    |            |
|   |     |                    |            |  |     |                    |            |
| c. yi   | bei | shen-sheng(≈ (3c)) |            | d. ze  | bei | shen-sheng(≈ (3d)) |            |
| E-T   |     | EX                 |            | E-T  |     | EX                 |            |
| clothes cover2 shen-sheng                     |     |                    |            | bounty cover2 shen-sheng                       |     |                    |            |
| 'The clothes covered Shen-sheng.'             |     |                    |            | 'The bounties covered Shen-sheng.'             |     |                    |            |

- |   |   |
|---|---|
| e. Shen-sheng bei ze(= (4b))<br>EX E-T<br>Shen-sheng undergo bounty<br>'Shen-sheng underwent bounties.' | f. shen-sheng bei yang(= (4a))<br>EX E-T<br>Shen-sheng suffer disaster<br>'Shen-sheng suffered the disaster.' |
|---|---|

The shift from (15a) to (15b) can be viewed as a metaphor if the abstract 'disaster' is considered to cover 'him' in the way the concrete 'clothes' do. The same can be said of the shift from (15c) to (15d). But the concept of metaphor does not help to explain the shift from (15d) to (15e). And this is the key step in *bei* verb. The concept of metaphor is applied when there is a correspondence relation between the source domain and the target domain. For instance, in Chinese, 'Introduction to Linguistics' can be expressed as follows:

- (16) yu-yan-xue ru men.  
 linguistics enter door  
 'The door to Linguistics.'

In (16), 'linguistics' is compared to a building, thus 'introduction' turns out to be a 'door'. The change between them involves a correspondance relation. But such a metaphorical relation does not exist between (15d) and (15e):

- |   |   |
|---|---|
| (17) Source Domain (=15d))<br>ze bei shen-sheng<br>E-T EX<br>bounty cover2 shen-sheng<br>'The bounties covered Shen-sheng.' | Target Domain (=15e)<br>shen-sheng bei ze.<br>EX E-T<br>shen-sheng undergo bounty<br>'Shen-sheng underwent bounties.' |
|---|---|

As can be seen in (17), the lexical meanings of the effector-theme and experiencer in the target domain are exactly the same as in the source domain. The only difference is the exchange of syntactic positions between the effector-theme and experiencer and the corresponding change from Predicate (E-T --- EX) to Predicate (EX --- E-T). As a result of this exchange, the physical verb becomes a mental verb. The reason for this semantic shift is that the exchange of positions for the theme and experiencer gives rise to a change in their logical and semantic relations. The inherent semantic structure of the locative relationship is P (E-T, EX), whereas the inherent semantic structure of an experienced relationship is P (EX, E-T). It is well known that word order changes are very often related to both functional factors and the empathy focus of the speaker. In this light, I would like to suggest that the change involved in the development from a physical domain to a mental domain is more likely to have a functional explanation than one couched in terms of metaphor.

The functional principles operative in Chinese have been widely discussed from various perspectives. There are four functional principles for expressing the viewpoint or the focus of empathy of the speaker: a) the speaker's empathy hierarchy in surface structure is Subject 'prior to or simultaneous with' Object ... 'prior to' Patient; b) conflicting empathy foci are prohibited, i.e., it is not possible to have conflicting or contradictory empathy foci within the same sentence; c) the speech-act participant empathy hierarchy is speaker 'prior to' hearer and hearer 'prior to' third person; d) a topic or previously mentioned discourse-anaphoric NP is prior on the empathy hierarchy to a non-topic or discourse-nonanaphoric NP which is mentioned for the first time. These four functional principles can be seen as manifestations of a single principle



that says, in essence, that 'close' is prior to 'distant', on the empathy hierarchy. 'Close' refers to subject, speaker, and hearer, who enjoy priority as the foci of the speaker's empathy; 'distant' refers to indirect object, patient, and third person, who are less important than those who are 'close' in terms of speaker empathy. The difference between active and passive sentences in Chinese is chiefly a matter of a change in the focus of information and in the order of empathy foci. As seen in (18), a single event 'the husband Zhangsan has beaten his wife Lisi' can be described in five different ways.

- (18) a. Zhangsan da le Lisi.  
Zhangsan beat ASP Lisi  
'Zhangsan has beaten Lisi.'
- b. Zhangsan da le ta-de tai-tai.  
Zhangsan beat ASP his wife  
'Zhangsan has beaten his wife.'
- c. Lisi de zhang-fu da le ta.  
Lisi of husband beat ASP she  
'Lisi's husband has beaten her.'
- d. Lisi bei Zhangsan da le.  
Lisi PASS Zhangsan beat ASP  
'Lisi was beaten by Zhangsan.'
- e. Lisi bei ta-de zhang-fu da le.  
Lisi PASS her husband beat ASP  
'Lisi was beaten by her husband Zhangsan.'

Although these five sentences have the same cognitive content, they differ in terms of the empathy focus of the speaker. In (18a), directly addressing the two people involved in the event as 'Zhangsan' and 'Lisi', the speaker simply narrates the event from the standpoint of an onlooker. In (18b), 'Zhangsan' is still the subject, but the object 'Lisi' is replaced by 'his wife'. 'Zhangsan' has become the empathy focus of the speaker. In (18c), 'Lisi's husband' replaces 'Zhangsan' as the subject, indicating that the speaker takes a stand for 'Lisi' in his narration. (18d) is a passive sentence derived from the active sentence (18a). Purposely using 'Lisi' as the subject or topic of the sentence, the speaker regards 'Lisi' as an empathy focus. In using 'her husband' instead of 'Zhangsan' as the object, (18e) goes much farther than the other sentences in revealing the speaker's deep empathy for 'Lisi'.

It should be pointed out that the difference between (18a) and (18d) is simply the difference between active and passive sentences, with the speaker's narrative stance being more practical and neutral in (18a) but more empathetic to 'Lisi' in (18d). Whether the agent or patient is chosen as subject is decided by the empathy focus of the speaker. Although the semantic case-role of the subject or topic of the sentence may be shifted in conjunction with the shift of empathy focus of the speaker, this chain shift is not arbitrary. Many linguists have studied the relations between semantic case-roles and the functional hierarchy from a synchronic perspective. One of the interesting results of this sort of work is the 'Actor-Undergoer Hierarchy' of Foley and Van Valin (1984), which combines an accessibility to actor hierarchy and a hierarchy of preferences for undergoer into the single cline shown in (19) (the arrows indicate the increasing markedness of the choice).<sup>6</sup>

<sup>6</sup> Foley & Van Valin characterize the *actor* as the argument of a predicate which expresses the participant which performs, effects, instigates or controls the situation denoted by the predicate, and the *undergoer* as the argument which expresses the participant which does not perform or control any situation but rather is affected by it in some way.

- (19) AG ... EFF ... E-T ... LOC ... TH ... PA  
 Actor ----->  
 <----- Undergoer

The actor hierarchy works from left to right, the undergoer hierarchy from right to left, with agent being the primary choice for actor, patient the primary choice for undergoer, and all others falling somewhere in between.

(19) is a synchronic functional hierarchy based on an analysis of logical and semantic relations. With only minor adjustments, the diachronic functional hierarchy motivated by the Chinese date discussed here basically matches the actor hierarchy in (19). If we take (3a) as a prototype, the diachronic functional chain shift is as in (20):

- (20) AG/SUBJ --> E-T/SUBJ --> EX/SUBJ --> PA/SUBJ  
 (e.g.3a-b) (e.g.3c-d) (e.g.4) (e.g.5)

Given the diachronic functional hierarchy in (20), we are able to show how *bei* changed from a physical verb into a mental verb. Taking (3a-b) as prototypical, because they are the earliest examples we have found, we find that the prototypical actor is an agent, occurring in the pattern: Agentive-Verb (AG,PA). When the empathy focus of the speaker shifts to the effector-theme, the effector-theme becomes subject. According to the previously mentioned functional principle (b) (i.e. the ban on conflicting empathy foci), the agent, which is the most qualified candidate, must be deleted.<sup>7</sup> The original verb consequently changes into a non-agentive verb. At the same time the word order change of the semantic case-roles results in a new logical structure with new semantic relations. The semantics of the sentence with effector-theme as subject reflects a locative relationship, i.e. the pattern: Nonagentive-Verb (E-T, LOC/EX).

When the speaker's empathy focus shifts to the experiencer, the latter becomes the subject of the sentence and the effector-theme becomes the object. As a result, the logical structure of the sentence changes from that of the locative relationship to that of the experienced relationship. This change in structure stimulates the semantic change of the verb. Generally speaking, the subject of an action verb is an actor. Now, owing to the powerful influence of topicalization, the experiencer moves to subject position and the original subject, a non-undergoer, becomes an undergoer, causing the verb to lose its physical property and gain the properties of the new, abstract mental domain. As a result of the emergence of this new domain, many new semantic properties appear, such as the abstract sense associated with the effector-theme when it becomes stimulus.<sup>8</sup>

<sup>7</sup> Another reason for agent deletion is that the agent is highest on the topic hierarchy and is thus the expected subject in any case, except when the speaker shifts his empathy focus to the other case-role, making it the subject or topic. In other words, the agent can be present when another case-role acts as subject (except in passive sentences).

<sup>8</sup> It seems to me that the functional hierarchy proposed here for the development of *bei* in Chinese may be universal. The mental verb 'like' in English underwent a change from LIKE (effector-theme, experiencer) to LIKE (experiencer, effector-theme). A similar change occurred with the mental verb 'think'.

It should be noted that the change from a physical verb 'cover2' to a mental verb 'suffer' is in fact divided into two stages: The first is refocusing, i.e. the speaker's empathy focus shifts from the effector-theme to the experiencer, thus completing the change from a physical verb to a mental verb. The semantic property at this time is neutral (cf. (3c-d) and (4b)). But the locative relationship between the two participants becomes the experienced relationship. The second stage is one during which the neutral semantic property is replaced by pejorative and adversative semantic properties (cf. (4a, c, and d)). This change may be relevant to the speaker's psychological image of the action conveyed by the verb. 'Cover' refers to an action which seems to be uncontrollable, irresistible and which involves motion towards its undergoer, who is placed in a position in which he receives the action passively. What is expressed by the action does not reflect the undergoer's will. Rather, the undergoer is under its influence. This easily gives rise to an image of the undergoer as unfortunate and powerless.

It should also be noted that the semantic changes stimulated by this psychological image, for example, the semantic change from the physical domain to the mental domain, are explained not by an approach based on metaphor but by the functional approach, i.e. by the speaker's shift of empathy focus. The major semantic changes caused by the shift of functional chain are shown in (21):

(21) shift stages	speaker focus	subject	verb	object
prototype	AG	+actor -undergoer +human	+agentive +physical	+undergoer +concrete +/-human
1	E-T	-actor -undergoer -human	-agentive +physical	+undergoer +concrete +/-human
2	EX	-actor +undergoer +human	-physical +mental	-undergoer -concrete -human

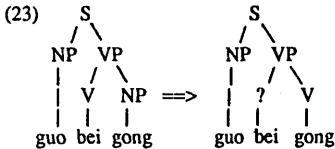
In its prototypical form *bei* is the agentive physical verb 'cover1' (3a-b). In shift stage 1 *bei* is the non-agentive physical verb 'cover2' (3c-d). In shift stage 2 it is a mental verb (cf. (4)).

### 3.3 THE SHIFT FROM A MENTAL VERB TO A PASSIVE MARKER

Having completed its change from a physical verb into a mental verb, *bei* begins its second major change, i.e. the change from a mental verb to a passive marker. Since this change had no morphological reflex, it is commonly thought that determining the date of origin of the passive marker is somewhat tricky. Indeed, many of the early sentences are susceptible to more than one analysis. Consider, for instance, (22), an example that linguists have been unable to agree about:

- (22) guo yi ri bei gong, ... (=5a)  
 country one day PASS attack  
 'If the country is attacked some day,...'  
 (Zhan-Guo-Ce, 200 B.C.)

The fact that so many Old Chinese words can function as either nouns or verbs makes it difficult to determine the part of speech of the element after *bei*. Similarly, the status of *bei* itself is unclear. The kind of syntactic reanalysis that would result in a passive interpretation of (22) is shown in (23):



Most Chinese linguists hold that whether *bei* in (22) is a verb or a passive marker depends on whether the element following *bei* is analyzed as a verb or NP. But since there is not any obvious morphological marker for differentiating verbs from nouns in Chinese, this is an unreliable criterion. It seems to me that *bei* in (22) is a passive marker on the grounds that the semantic properties of this structure are different from those of mental verbs. Based on what we have already established concerning the semantic properties of mental verbs, if (22) expresses an event in the mental domain with the mental verb 'suffer', the subject should be an experiencer, and the object should be a stimulus which comes into contact with the mind of the experiencer. The relation involved would be that of experiencer --- effector-theme. However, 'country' in (22) is not an experiencer because it is non-human and experiencers must be human. (24) is another example in which the subject is clearly non-human:

- (24) *jiu-rang bei zhen.* (=5d)  
 earth PASS shake  
 'The earth was shaken.'  
 (San-Guo-Zhi, 233 A.D.)

If we analyze *bei* as a verb in both (22) and (24), its subject ('country' in (22) and 'earth' in (24)) must be a effector-theme. But this is problematic because one of the semantic features of effector-themes is non-affected and 'country' and 'earth' are clearly being affected in these sentences. Moreover, if the subject is a effector-theme, the object must be either a locative or an experiencer. But no such interpretation is available in either case. Thus, the only possibility is that the subjects in (22) and (24) are patients, which are semantically affected and either human or non-human. A sentence with patient as subject can only be a passive sentence or a stative sentence. But since the verbs *gong* 'attack' (22) and *zhen* 'shake' (24) are not stative, the only viable analysis of (22) and (24) is the passive one, with *bei* being interpreted as a grammatical marker of the passive structure.

Let us consider what semantic characteristics the passive structure formed with *bei* has and how this structure differs from the mental verb structure. First of all, the subject of the passive sentence must be an undergoer, which can be non-human and whose case-role is that of patient. The subject of a mental verb, on the other hand, is an experiencer. Second, the passive sentence with patient as its subject expresses an action in the physical domain with a physical verb, but the sentence with the experiencer as its subject expresses an event in the mental domain with a mental verb. Third, the passive sentences formed by *bei* did not have an agent until about 440 A.D. In other words, before 440 A.D., such passive sentences only had one participant. The

mental verb, however, has two participants. It should be noted that although the passive sentence expresses an action in the physical domain with a physical verb, the physical verb involved is not *bei*. Language development wouldn't moves backwards. In passive sentences, *bei* is only a passive marker, the element following *bei* is the physical verb. What has caused the change of *bei* from 'suffer' to a passive marker may be related to the change in the semantic property of the subject of the source domain. While the passive domain with a passive marker is a target domain, the mental domain with the verb 'suffer' is a source domain. Although both source domain and target domain have undergoer as their subject, in the former case the subject is human while in the latter it is either human or non-human. Probably because of the influence of personification, non-human NPs began to appear in the subject position, which was formerly accessible only to human NPs. A series of chain reactions ensued. Originally, the relationship between the experiencer and effector-theme in the source domain was the experienced relationship. But once the subject was interpreted as non-human, its semantic role changed from experiencer to patient. Although both patient and experiencer are undergoers, the presence of the patient role entails the pattern Predicate [PA, (AG)]. The presence of an experiencer, on the other hand, entails the pattern Predicate [EX, E-T].

In the source domain, *bei* is an element with considerable freedom. As a mental verb (call it 'suffer1' here), it describes an experienced relationship between experiencer and effector-theme. But in the target domain, this relationship disappears. The experiencer becomes the patient, the effector-theme is deleted, and *bei* loses its function as a mental verb. Within the physical domain with a patient as the subject and a main verb that is a physical verb, *bei* cannot change back to a physical verb. As a result, it becomes a passive marker, uniting with the physical verb to express the passive voice. *Bei* at this time is very much like 'be V-en' in English (call it 'suffer2' here). It has become a bound morpheme with very abstract and schematic characteristics. Givon (1979) has characterized grammaticalization as a movement from loose parataxis to tight syntax. This is what has happened to *bei* in Chinese. The development of *bei* from a verb meaning 'suffer' to a passive marker is summarized in (25):

(25) Source Domain	====>	Target Domain
suffer1 (undergoer, (E-T))		suffer2 (undergoer, (AG))
+experiencer		-experiencer
+mental		-mental
+human		+/-human

It should be pointed out that although 'suffer2' is already a passive marker which has lost almost all the lexical meanings possessed by 'suffer1' and which possesses only the schematic meaning now, it retains the adversative property of 'suffer1', which it has transferred to the whole passive structure, such that the structure itself is associated with an adversative meaning for the subject.

#### 4. FURTHER DISCUSSION

4.1 One commonly accepted account of the process of semantic change holds metaphor to be the driving force. But, as shown in (3.2), metaphor does not provide an explanation for the grammaticalization of *bei* in Chinese, at least not for the early stages of this process. A problem for an approach based on metaphor is example (17).

The effector-theme and experiencer in both source and target domains have exactly the same meaning, but the change in word order turns 'cover' into 'suffer'. This example provides the motivation for our functional hypothesis. The grammaticalization of *bei* can be divided into four stages shown as (26):

(26)	cover1	----->	cover2	----->	suffer1	----->	suffer2
	agentive		non-agentive		mental		passive
	physical		physical		verb		marker
	verb		verb				

It is the shift of the speaker's empathy focus that caused the semantic change of *bei*. This was governed by the hierarchy as presented in (27):

(27)	AG/SUBJ	---->	E-T/SUBJ	---->	EX/SUBJ	---->	PA/SUBJ
	cover1		cover2		suffer1		suffer2

The functional hypothesis was fully discussed in section 3.2. Here we just consider a possible alternative explanation. One might entertain the hypothesis that the relationship between 'cover1' and 'cover2' is that between homonyms. That is to say, their relationship might be treated as a synchronic instead of a diachronic one. But such an analysis seems unjustified. If it were correct, we would expect to find evidence that 'cover1' and 'cover2' co-existed. However, the data at our disposal suggests that 'cover1' appeared for the first time in about 770 B.C., whereas 'cover2' first appeared in about 340 B.C.. This gap of over 400 years suggests a diachronic rather than a synchronic relationship. This diachronic relationship can be explained by the functional hypothesis.

4.2 Two controversial issues concerning grammaticalization are whether it involves semantic bleaching or semantic gaining, and whether a grammatical word is meaningful or meaningless. The data presented in this paper show that bleaching and gaining can co-occur. When *bei* changed from the verb 'cover' to the verb 'suffer', it lost the semantic properties of a physical verb but gained at the same time the semantic properties of a mental verb. It is worth noting here that the gaining hypothesis maintained by the scholars who oppose the bleaching hypothesis is concerned with abstract gaining. As for the claim that grammatical words are meaningful, the only concern is with schematic meaning, structural meaning, etc., because abstractness itself is considered to be a kind of meaning. Dressed in this way, the gaining hypothesis sounds fairly original. However it is not really much different from the bleaching hypothesis. It differs, if at all, by virtue of the perspective of those who entertain it. However, this paper provides evidence for the gaining hypothesis. When *bei* changed from 'cover2' to 'suffer1', it lost its original neutral semantic property and then gained, to a certain degree, the relatively particular semantic property of adversity. Moreover, when *bei* changed completely into a grammatical marker, not only did it not lose its semantic property of adversity but it also transferred this property to the passive structure as a whole, suggesting quite clearly that a grammatical word can be meaningful.

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