

REANALYSIS AND CONSERVANCY OF STRUCTURE IN CHINESE

John Whitman, Cornell University & Waltraud Paul, CRLAO, Paris
jbw2@cornell.edu wpaul@ehess.fr

1. Introduction

The relegation of syntactic variation to lexical features under the Minimalist Program has led to a growing awareness that syntactic change should be characterized in the same way: by changes in the discrete features of individual lexical items. This insight has given rise to the following distinctively minimalist typology of syntactic change:

- (1) a. Loss or gain of a feature driving movement (Roberts 1993, 1997).
- b. Grammaticalization as shift “up the tree” to a functional category (Roberts & Roussou 1999)
- c. Reanalysis as relabelling: lexical items change categorial or projection [\pm max, \pm min] features under preservation of hierarchical (c-command) relations (Whitman 2000).

The objective of this paper is to apply this typology to several well-known examples of syntactic change in Chinese. We show that earlier analyses exaggerate the scope of syntactic change in the long-documented history of Chinese languages. The changes that are in fact attested can be characterized as featural change, without rearrangement of hierarchical structure.

2. Received views about structural change in Chinese

A persistent misconception dating to the 1970s holds that Chinese languages have undergone a change in basic word order from OV to VO back to OV again (Li & Thompson 1974). Li & Thompson's claim that Chinese was SOV before the 10th c. BC has been decisively rejected by numerous specialists (Djamouri 1988, Shen 1992, Peyraube 1996), on the basis of extensive studies of the earliest attested texts (14th c. - 11th c. BC). These studies clearly show that VO represents the main word order (94% of 26,000 utterance tokens in the Shang bone inscription corpus studied by Djamouri 1988). Nevertheless, the original Li and Thompson view continues to influence even sophisticated general theorists (e.g. Newmeyer 1998: 242). From a standpoint where all types of syntactic change result from discrete changes in the features of individual lexical items, such radical shifts in overall word order are unexpected. This paper shows that they do not occur in Chinese. Significant syntactic changes instead turn out to be cases of reanalysis which obey the conservancy of structure restriction proposed in (1c): they change categorial features and eliminate or “prune” unmotivated structure, but preserve hierarchical c-command relations.

2.1. The great Mandarin *ba* hoax

Li & Thompson (1974) claim that modern varieties of Chinese are in the process of shifting to OV order. Their analysis of the preverbal object pattern with the “object marker” *ba* (2) requires a change in the category of *ba* and a fundamental change in clause structure.¹

¹ It is important to point out that the *ba* construction is not comparable to the obligatory object shift in e.g. Scandinavian languages which is contingent on verb raising (cf. Holmberg 1986, Ferguson 1996 among others), because definite DPs, proper names and pronouns may likewise occupy the canonical postverbal object position (i). Furthermore, *ba* appears to the right of negation (ii):

- (i) Ta paoqi -le Lisi/ wo -de pengyou/ wo
3SG abandon-PERF Lisi/ 1SG-SUB friend / 1SG
'She abandoned Lisi/my friend/me.'
- (ii) Ta mei ba Lisi/ wo -de pengyou/ wo paoqi
3SG NEG BA Lisi/ 1SG-SUB friend / 1SG abandon
'She has not abandoned Lisi/my friend/me.'

- (2) Ta ba Lisi paoqi -le (Modern Mandarin)²
 3SG BA Lisi abandon-PERF
 ‘She abandoned Lisi.’

The generally accepted idea is that *ba* (etymologically a verb meaning ‘take, seize’)³ originally occurred in a serial verb construction of the object-sharing type (3).

- (3) Sunzi jiang yi- ya si yong (Zhang Zhuo, *Chao ye qian zai*; 8th c.
 Sunzi take 1- duck privately use from Zhu Minche 1957: 18)
 ‘Sunzi grabbed a duck and used it himself.’

Li & Thompson claim that the shared object was reanalyzed as the object of the second verb and *ba* was reanalyzed as a preposition, giving the structure in (4) for (2).

- (4) [[VP [PP ba Lisi] [VP paoqi -le]]
 BA Lisi abandon-PERF

To grasp the scope of this alleged reanalysis, we must first provide a structure for the source serial construction in (3). It is widely agreed (cf. Zhu 1957: 24) that at the onset of the grammaticalization of *ba* and *jiang* in the 6th-8th century, they appeared in two distinct constructions, the object sharing construction in (3) and the instrumental construction in (5), which does not involve object sharing:

- (5) qing jiang yu -ban qiao hua -pian (Zhang Hu: *Gong zi xing*, 9th c.
 lightly take jade-piece tap flower-petal from Wang Li 1958/88: ch. 47: 539)
 ‘She lightly tapped on the flower petals with a piece of jade.’

Traditional analyses have not posited a structural distinction between these two constructions. Instead, they typically posit a coordinate structure for both (Peyraube 1985: 208; Cui 1984) or an adjunction structure for both (Zhu 1957, Wang Li 1958/88: ch. 47). But two different structures are necessary to explain the presence of object sharing in (3) and its absence in (5). A straightforward way of doing this is to adopt a VP complementation analysis (Larson 1991; Collins 1993, 1997) for the object sharing construction in (3):

- (6) [_v ba [_{VP1} yi-ya [_{VP1} t_{ba} [_{VP2} si [_{VP2} pro yong]]]]]
 take 1-duck privately use

In (6) *ba* (still with its lexical meaning ‘hold, take’) takes the second VP headed by *yong* ‘use’ as its complement. The shared object *ya* ‘duck’ is merged in the specifier of the VP headed by *ba* and controls *pro* in the complement VP. *Ba* moves to *v* (and possibly higher, cf. Paul 2002), deriving the surface order.

The source of the instrumental construction will be an adjunction structure as in (7). In this structure, there is no control relation between the object of the adjoined VP₁ and the object of VP₂.

For an extensive discussion of the *ba* construction in Modern Mandarin, cf. Li (2001).

² The following abbreviations are used in glossing examples: CL classifier; NEG negation; PERF perfective aspect; PL plural (e.g. 3PL = 3rd person plural); SG singular; SUB subordinator.

³ *Ba* is one of a pair of original verbs including *jiang* ‘take’ and *chi* ‘hold’ that underwent parallel developments; specialists in Chinese historical syntax generally treat them together (Wang Li 1958/88: ch. 47, Zhu Minche 1957, Peyraube 1996: 168). While *ba* survives in the object marking function in Modern Mandarin, *jiang* is its counterpart in e.g. more formal registers of Minnanhua (Taiwanese) and Cantonese.

- (7) [qing [_{VP2} [_{VP1} jiang yu -zhang] [_{VP2} qiao hua -pian]]] (= (5))
 lightly take jade-stick tap flower-petal

All researchers agree, following Zhu (1957) that the source for the modern *ba* construction is the object sharing pattern in (3) (the instrumental pattern with *ba* is lost in modern Mandarin). The reanalysis alleged by Li & Thompson posits a radical restructuring if the source structure is taken to be the VP complementation structure (8a) we have argued for in (6), or the symmetric coordinate VP structure (8b) assumed by Peyraube (1985):

- (8) a [_{VP} ba [_{VP1} NP_{obj} [_{VP1'} t_{ba} [_{VP2} *pro* V2]]]] > [[_{VP} [_{PP} ba NP_{obj}] [_{VP} V]]
 b [_{VP1} ba NP_{obj}] [_{VP2} V2 *pro*] > [[_{VP} [_{PP} ba NP_{obj}] [_{VP} V]]

In both (8a) and (8b) VP₁, headed by *ba*, must be rebracketed as an adjunct of VP₂, whose head then becomes the main verb. Such a restructuring would radically alter the hierarchical relations of the source structure.⁴

The radical restructuring in (8) is a byproduct of the traditional analysis of modern *ba* as a preposition (Li & Liu 1955; Chao 1968; Huang 1982; Peyraube 1985, 1996; Li 1990). However this analysis is rejected in recent work. There is a widespread consensus that *ba* is best viewed as the head of a functional projection above VP (Sybesma 1992, 1999; Zou 1993, Li 2001, Paul 2002).⁵ On this view, *ba* continues to take the projection of the verb to its right as its complement. The correctness of this analysis is clearly shown by the possibility of conjoining two occurrences of preverbal object plus VP under *ba* (cf. Wu Meng 1982: 434).⁶

- (9) Mama ba [[di ca -le you ca] [zhuozi ma -le you ma]]
 Mom BA floor scrub-PERF again scrub table wipe-PERF again wipe
 'Mom again and again scrubbed the floor and again and again wiped the table.'

- (10) Wo ba [[Zhangsan jieshao gei Lisi], [Wangwu jieshao gei Laoli]]⁷

⁴ If both the original *ba* serial construction and the modern *ba* construction are analyzed as adjunction structures, then no modification of hierarchical structure, only relabelling from VP to P, is involved in the development of the modern structure. However this analysis raises other questions: how object sharing is accounted for in the original serial structure, and how movement is possible in the modern *ba* construction, since an object moved into an adjunct headed by *ba* would not c-command its trace.

⁵ The analysis of *ba* as a non-prepositional head goes back to Hashimoto (1971) who analyzes it as a verb. Hashimoto proposes a ternary branching structure where *ba* takes both an NP and a clause as its complements. Ross (1991), Chen Xilong (1993), Bender (2000) basically follow Hashimoto's analysis. Crucially, under this analysis, the NP following *ba* is not contained in the complement VP of *ba*; accordingly the coordination data in (9) - (10) cannot be accounted for.

⁶ Wu Meng (1982) explicitly cites (9) as problematic for the alleged prepositional status of *ba*; as he observes, no other preposition takes discontinuous complements. Wu attempts to account for (9) by appealing to the verbal origin of *ba*, an insight which is basically correct.

⁷ We owe (10) and the argument based on it to Thomas Ernst, who attributes it to Audrey Li. The acceptability of (10) in itself is, however, not conclusive, because the example can also be parsed as containing two conjoined clauses, the second of which is a topic-comment structure:

- (i) [Wo ba Zhangsan jieshao gei Lisi], [[_{topic} Wangwu]_i [_{pro} jieshao t_i gei Laoli]]
 1SG BA Zhangsan introduce to Lisi Wangwu introduce to Laoli

Adding an adverbial phrase like *zui hao* makes the parsing of the second conjunct as a topic-comment structure impossible:

- (ii) Ta zui hao [ba [[Zhangsan jieshao gei Lisi], [Wangwu jieshao gei Laoli]]]
 3SG most good BA [[Zhangsan introduce to Lisi Wangwu introduce to Laoli]]
 'He'd better introduce Zhangsan to Lisi and Wangwu to Laoli.'

These examples confirm that *ba* is a higher head which can take two conjoined VPs as its complement. Naturally, it is also possible to conjoin two projections headed by *ba*:

1SG BA Zhangsan introduce to Lisi Wangwu introduce to Laoli
 'I introduced Zhangsan to Lisi, and Wangwu to Laoli.'

This fact would be difficult to explain if *ba* and the immediately following NP formed a constituent, as the prepositional adjunct analysis of *ba* in (4) holds. The behavior of *ba* in (9-10) contrasts sharply with (11), where a true adjunct PP is involved:

(11) Wo [dui Wangwu] hen you yijian , [*(dui Laoli) ye hen you yijian
 I towards Wangwu very have prejudice towards Laoli also very have prejudice
 'I am very prejudiced against Wangwu, and also against Laoli.'

(11) is totally ungrammatical without the second occurrence of the preposition *dui* 'towards'.

A further argument against the prepositional analysis of *ba* is its inability to appear as a modifier of a relational DP, in contrast with prepositions such as *dui* 'towards':⁸

(12) a [Zhangsan [_{PP} dui /*ba zhei-jian shi] de anpai] bu tuodang
 Zhangsan towards/ BA this-CL matter SUB arrangement NEG suitable
 'Zhangsan 's arrangement of this matter is not suitable.'

b Zhangsan [dui zhei-jian shi] ba xijie dou anpai -hao -le
 Zhangsan towards this-CL matter BA detail all arrange-good-PERF
 'Zhangsan with respect to that matter arranged all the details.' (Fu Jingqi, p.c.)

As (12) illustrates, *ba* can introduce the object DP of the verb *anpai* in a verbal projection (12b), but not in its nominal counterpart (12a). The unacceptability of (12a) also shows that *ba* as a higher verbal head has to be distinguished from lexical verbs, since verbs such as the relative of *ba* (descendent from the same root), meaning 'guard,' can head relative clauses as nominal modifiers:

(13) [_{DP} [_{IP} ba men] de nei-ge ren] shui jiao le
 guard door SUB that-CL person sleep sleep PART
 'The person who guards the door has fallen asleep.'

Last, but not least, since *ba* and the following NP do not form a constituent, they cannot be topicalized to the left of the subject as PPs can:

(14) a Gei Mali , wo (gei Mali) zuo -le hunduntang, (Paul 2002: 164)
 for Mary 1SG for Mary make-PERF wonton.soup
 gei Amei, wo (gei Amei) zuo -le chaomian
 for Amei 1SG for Amei make-PERF fried.noodles
 'For Mary, I made wonton soup, for Amy, fried noodles.'

(iii) Ta zui hao [ba [Zhangsan jieshao gei Lisi], [ba [Wangwu jieshao gei Laoli]]
 3SG most good BA Zhangsan introduce to Lisi BA Wangwu introduce to Laoli
 'He'd better introduce Zhangsan to Lisi and Wangwu to Laoli.'

⁸ Prepositions are not allowed as modifiers of non-relational nouns:

(i) * [_{PP} dui ta] de hua vs. (ii) [_{IP} wo [_{PP} dui ta] shuo] de hua
 towards 3SG SUB word 1SG towards 3SG speak SUB word
 ('the words for him') 'the words I spoke to him'

- b (*ba shu), ni keyi ba shu fang zai zhuozi-shang
 BA book 2SG can BA book put at table -top
 (*ba dayi), ni keyi ba dayi fang zai chuang-shang
 BA coat 2SG can BA coat put at bed -top
 'The books, you can put on the table, the coat, you can put on the bed.'

- (15) Youju , cong zher, ni wang nan qu. (Lü et al. 1980/1995: 130)
 post.office from here 2SG toward south go
 'The post office, from here, you go south.'

The analysis of the *ba* construction in modern Mandarin that we propose shares the basic assumptions of previous analyses of *ba* as a higher head. *Ba* does not assign a thematic role to the preverbal object, and the surface position of the object is derived by movement.⁹

- (16)
$$\begin{array}{c} \text{vP} \\ / \quad \backslash \\ \text{NP} \quad \text{v}' \\ \quad / \quad \backslash \\ \quad \text{v} \quad \text{baP} \\ \quad \text{ba} \quad / \quad \backslash \\ \quad \quad \text{Lisi} \quad \text{ba}' \\ \quad \quad \quad / \quad \backslash \\ \quad \quad \quad \text{t}_{ba} \quad \text{vP} \\ \quad \quad \quad \quad / \quad \backslash \\ \quad \quad \quad \quad \text{v} \quad \text{VP} \\ \quad \quad \quad \quad \quad / \quad \backslash \\ \quad \quad \quad \quad \quad \text{paoqi -le} \quad \text{t}_{Lisi} \\ \quad \quad \quad \quad \quad \text{abandon-PERF} \end{array} \quad (=2)$$

The surface order of constituents is derived by movement of the object to the Spec of *ba* and movement of *ba* to *v*.¹⁰ A concrete argument for the movement analysis is the observation that VP-level adverbs such as manner adverbs and frequentatives like *you* 'again' (cf. (9) above) may occur between the preverbal object and the verb:

- (17) Ta (henxinde) ba Zhangsan (henxinde) paoqi-le. (slightly changed example
 3SG cruelly BA Zhangsan cruelly abandon from Tang 1990: 145)
 'She heartlessly abandoned Zhangsan.'

This would be difficult to explain if the object had not moved into a position above *vP*.

The same fact obtains already in late medieval *ba* sentences such as (18):

- (18) Du ba Liangzhou fan ji pai (Gu Kuang shi, 8th c.
 alone BA Liangzhou melody several.times play from Zhu Minche 1957: 28)
 'Alone, I'll play the Liangzhou melody several times.'

⁹ Carstens (2002) proposes a movement analysis for similar serial constructions in Yoruba and other Niger-Congo languages.

¹⁰ (16) is different from Li's (2001: 40-41, (92)) analysis where *ba* as the head of *BaP* stays in situ and takes a *vP* complement, with the direct object in its specifier; on this view, adverbs to the right of *ba* (cf. (17)) must be adjoined to *v'*, a rather implausible assumption.

At the same time, *ba* must be lower than the position occupied by modal and tense auxiliaries, as evidenced by the position of bare NP adverbs (cf. Li 1985: 373):

(19) Ta zuotian ba Zhangsan (*zuotian) paoqi -le
 3SG yesterday BA Zhangsan yesterday abandon-PERF
 'She abandoned Zhangsan yesterday.'

(20) Ta (mingtian) yao (mingtian) qu Beijing
 3SG tomorrow want tomorrow go Beijing
 'He wants to go to Beijing tomorrow.'

While the auxiliary can occur to the left and the right of *mingtian* 'tomorrow', *ba* is restricted to the right of *zuotian* 'yesterday', which indicates that its position is below that of modal and tense auxiliaries. In (16) we locate *ba* in vP.

Above we have shown that the modern Mandarin *ba* construction retains the same basic hierarchical relations that its 'ancestor' structure had in Middle Chinese. Two changes have, however, taken place in the development of the modern structure. First, *ba* no longer assigns a thematic role to a complement NP; instead, the NP in the Spec of *ba* (*Lisi* in (16)) moves to that position. Second, the adverb placement data in (17) and (18) show that *ba* originates in a functional head position higher than lexical verbs.

Reanalysis of *ba* thus exemplifies the first of two types of featural change introduced in section 1: reanalysis moves *ba* 'up the tree' to the position of a functional head (Roberts & Roussou's characterization of grammaticalization). Crucially for the argument of this paper, reanalysis of *ba* obeys the basic conservancy of structure constraint for feature-based reanalysis in Whitman (2000): c-command relations between *ba* and other components of the source structure are retained in the output of the change.

3. V > P reanalyses

A well-known pattern of categorial relabelling is change from V to P. In Chinese as well, this type of change is richly attested. Mandarin *cong* 'from', for example, functions as the head of a preverbal PP:

(21) Wo gang [PP cong nongcun] hui -lai (Lü et al. 1980/1995: 130)
 1SG just from village return-come
 'I have just come back from the village.'

The basic configuration of (21), where *cong* heads an adjunct projection preceding the main verb, dates back at least to the Warring States period, as shown by (22) from the *Zuozhuan*.¹¹ *Cong* at this time also occurs as a main verb meaning 'follow, pursue' (23):

(22) [Cong tai -shang] tan ren. (Zuozhuan: Xuangong 2;
 from platform-upon shoot people 5th c. - 3rd c. BC).
 'He shot people from up on the platform.'

(23) Xia , zhuhou zhi daifu [cong Jin hou] fa Qin
 summer, feudal.lord SUB high.official follow Jin duke attack Qin
 'In summer, the high officials of the feudal lords, following the duke of Jin, attacked Qin.'
 (Zuozhuan: Xianggong 14; 5th c. - 3rd c. BC)

¹¹ According to Ohta (1958/1981: 252), adjunct use of *cong* dates back to Old Chinese, primarily in the sense of 'from (location)' rather than 'from (time)'.

(23) illustrates the etymological source of *cong*. In Shang inscriptions (14th c.-11th c. BC), *cong* occurs only as a verb meaning 'follow, pursue' (R. Djamouri, p.c.).

Note that it is difficult to specify exactly when relabelling of *cong* from V to P took place (cf. Ohta 1958). The interpretation of the adjunct headed by *cong* in (21) shows semantic 'bleaching', familiar from the grammaticalization literature, but independent syntactic tests are required to demonstrate an actual change in category. We will cite here one piece of evidence for its prepositional status (see McCawley 1992 for additional arguments) viz. the unacceptability of [*cong* NP] as a nominal modifier (recall that only relational nouns allow modification by a PP in modern Mandarin (cf. (12) above):

- (24) a *_{[DP [PP *cong* Beijing] de xuesheng]}
 from Beijing SUB student
 ('the student from Beijing')
- b _{[DP [IP [PP *cong* Beijing] lai] de xuesheng]}
 from Beijing come SUB student
 'the student who comes from Beijing'

Thus at some point (probably well) prior to modern Mandarin, we must posit the change in categorial feature in (25):

- (25) _{[VP *cong* NP] > [PP *cong* NP]}
 [.v..] [.p..]

The relabelling in (25) relates (21) and the source pattern in (23) where *cong* occurs as the verbal head of an adjunct preceding the main verb. Hierarchical relations in the overall clause are retained. Cases of this sort exemplify 'pure' relabelling (1c), where change in categorial feature appears to be unaccompanied by any 'shift up the tree' in the sense of Roberts & Roussou (1999).

Relabelling in (25) maintains the hierarchical relations among constituents retained after the change, but it is likely that reanalyses of this pattern involve some elimination of structure. To take a concrete example, given that *cong*-phrases like (23) are transitive, they must be associated with an external argument position, as in (26):

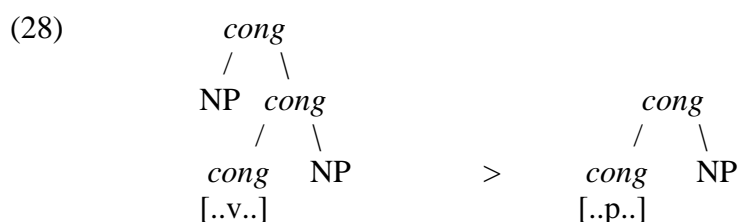
- (26) Xia , zhuhou zhi daifu _{[vP [vP PRO [vP *cong* Jin hou]] [vP fa Qin]]}
 summer feudal.lord SUB high.offical follow Jin duke attack Qin
 'In summer, the high officials of the feudal lords, following the duke of Jin, attacked Qin.'

In (26) the external argument is represented as a PRO bound by the matrix subject. In current terms, the projection immediately dominating PRO is a higher category, such as vP. PPs headed by *cong*, in contrast, give no evidence of being associated with a subject position; in an example like (27) below, as in (15), there is no obvious controller for such a position.

- (27) Qian pai , cong zuo-qi di si ren jiu shi ta (Lü 1980/95: 130)
 front row from left -onward number 4 person then be 3SG
 'Front row, the fourth person from the left is him.'

If it is the case that PPs are not associated with a subject position, we need a mechanism to bring about the requisite 'shrinkage' in VP > PP reanalyses. Let us assume that the crucial

step of reanalysis is relabelling. Once the head is relabelled with the categorial feature [p], selectional properties insure that it may no longer be selected by *v*. This in turn ensures elimination of the external argument position, as shown schematically in (28):



We dub such reduction of structure 'pruning', applying Ross's (1967) term for deletion of excrement structure to a diachronic change. Pruning eliminates structure, but does not change the c-command relations of the material that is retained, thus it satisfies the conservancy of structure constraint (1c).

In the grammaticalization literature, relabellings of this type have typically been discussed completely apart from the syntactic environment where they occur. In the framework adopted here, however, it is predicted that only verbs in certain positions may undergo relabelling to P. Consider the extended VP structure in (29):

(29) [_{VP} [_{XP} ..VP₁..] [_{VP} *v* [_{VP2} NP [_{V'} V₂ [_{VP3} NP [_{V'} V₃ Complement]]]]]]]]

In (29), VP₁ (perhaps contained in a larger, e.g. *v*P, TP, or CP projection) is a *v*P-level adjunct. We have seen that V > P reanalysis of *cong* 'from' < 'follow' conserves hierarchical relations in this context.¹² Other instances of V > P reanalysis in Chinese of which we are aware - *gen* 'with' < 'accompany', *dui* 'towards' < 'face, be opposite', *gei* 'to, for' < 'give' - are restricted to verbs which in the history of Chinese occur in this preverbal position.¹³ To recapitulate, V > P reanalysis occurs in Chinese in precisely the environment where relabelling preserves overall hierarchical structure.

Returning to (29), VP₂ represents the 'main' VP in the extended VP structure. Under the conservancy of structure constraint the verb in this position is predicted not to be able to undergo V > P reanalysis. The resultant structure would be ill-formed: prepositions cannot support Tense, nor are they selected by *v*.

It might appear that the nonexistence of main verb > P reanalyses is simply taken for granted in the grammaticalization literature. But as we saw in section 2, if the prepositional analysis of Mandarin *ba* generally assumed in this literature were correct, this would be precisely a case of a main verb (V₂ in (29) i.e., the initial verb in an object sharing serial construction) undergoing reanalysis as a preposition.

In fact the basic development represented by *ba* is not an isolated one within the history of Chinese. The evolution of the passive marker *bei* is structurally parallel. *Bei* first occurs as the main verb (= V₂ in (29)) in a construction meaning 'NP [_{VP2} suffers VP3]:

(30) Cuo zu yi bei lu (Shiji: Cu li lie zhuan; 1st c. BC
 Cuo finally therefore suffer slaughter from Peyraube 1996: 176)
 'Therefore, Cuo finally suffered being slaughtered.'

¹² Note that in these and many other cases (homophonous) verbs and prepositions co-exist in modern Mandarin (the same holds for the functional head *ba* (3rd tone) and the verb *ba* (3rd tone), cf. (13) above). This considerably weakens the common idea that the loss of the "original" lexical item is decisive for grammaticalization to take place (cf. Longobardi 2001) and that "functional elements (tend to) fall below the prosodic threshold for wordhood" (Roberts & Roussou (1999: 1025).

¹³ For reasons of space, we cannot discuss cases attested in Chinese of V > P reanalysis in the complement position (VP₃ in (29)). We argue that reanalysis in this position as well observes the conservancy of structure constraint (1c).

Peyraube (1996: 176) shows that *bei* first occurs in this pattern without an overt agent associated with the complement VP; it is only towards the end of early medieval Chinese (2nd - 6th c.) that the pattern '*bei* agent verb' is attested:

- (31) Liangzi bei Su Jun hai (Shi shuo xin yu: Fang zheng; 5th c.
 Liangzi BEI Su Jun kill from Peyraube 1996: 176)
 'Liangzi was killed by Su Jun.'

For modern Mandarin, it has been widely claimed that - unlike the immediately preverbal *bei* (cf. (30)) - the *bei* followed by an agent NP has been reanalyzed as a PP (e.g. Bennett 1981, Mc Cawley 1992: 225, Peyraube 1996: 177, Ma Beijia 2003).¹⁴ If correct, this analysis would posit exactly the kind of main verb > P reanalysis that we have been arguing does not occur. And once again, there is strong evidence that the PP analysis of '*bei* NP' is wrong. Hashimoto (1988: 2.1.1.) uses the same type of coordination argument that we presented for *ba* in (9-10) to show that *bei* is a higher head (for Hashimoto, a verb taking a clausal complement, with the agent NP as its subject or topic, respectively):

- (32) Ta bei [qinren huaiyi] [wairen zhize] (Hashimoto 1988: 332, (9))
 3SG BEI relatives suspect stranger criticize
 'He is not only criticized by strangers, but suspected even by his own people.'

Like *ba* in (9-10), *bei* takes a coordinated VP complement in (32); *bei* and the immediately following agent NP do not form a constituent.¹⁵ (32) neatly contrasts with (33) where the preposition is required in both VP conjuncts:

- (33) Ta [[[PP zai xuexiao] xuexi] [[PP *(zai) jiali] xiuxi]]
 3SG at school study at home rest
 'He studies at school and rests at home.' (Hashimoto 1988: 332, (10))

In the case of both *ba* and *bei*, original main verbs undergo substantial 'bleaching'. Nevertheless, their relative structural position remains unchanged, as predicted by (1c).

In sum, conservancy of structure predicts that verbs in the VP₁ (adjunct) position may undergo relabeling to P, as is richly attested in Chinese. Verbs in VP₂ (main verb) position may not, and such cases are not attested in Chinese.

5. Conclusion

Specialists in Chinese historical syntax have been aware for some time that the radical word order shifts posited for this group of languages by researchers in the 1970s are simply not supported by the historical data. In this paper we show that the changes in the extended VP syntax that are attested maintain the basic hierarchical structure of much earlier stages, and fall into just a few basic patterns: V > P reanalyses in adjunct position, and categorial shift of 'main' verbal heads to functional status.

¹⁴ The status assigned to the verb-adjacent *bei* differs (but is never that of a preposition). Peyraube (1996) considers it an auxiliary; for McCawley (1992), *bei* plus verb is a compound.

¹⁵ Also cf. Huang (1999) who analyses the *bei* in the agent passive as an experiential verb taking a clausal complement and the *bei* in the agentless passive as an experiential auxiliary with a VP complement.

References

- Bender, E. (2000). 'The syntax of Mandarin *ba*: Reconsidering the verbal analysis', *Journal of East Asian Linguistics* 9,2: 105-45.
- Bennett, Paul A. (1981). 'The evolution of passive and disposal sentences', *Journal of Chinese Linguistics* 9,1: 61-89.
- Carstens, V. (2002). 'Antisymmetry and word order in serial constructions', *Language* 78,1: 3-50.
- Chao, Yuen Ren (1968). *A Grammar of spoken Chinese*. Berkeley et alibi: University of California Press.
- Chen, Xilong (1993). *On the syntax of serial verb constructions in Chinese*. Doctoral dissertation, University of Georgia.
- Collins, C. 1993. *Topics in Ewe Syntax*. Doctoral dissertation, MIT.
- Collins, C. 1997. 'Argument sharing in serial verb constructions', *Linguistic Inquiry* 28, 3: 461-497.
- Cui, Gui-bo. 1984. *Zhuzi yulei de suo biao xian de ji-ge baihua yufa xianxiang* [Some grammatical phenomena of the vernacular language in the *Zhuzi yulei*]. MA thesis, National Taiwan University.
- Djamouri, R. 1988. *Etude des formes syntaxiques dans les écrits oraculaires gravés sur os et carapaces de tortue*. Doctoral dissertation, EHESS, Paris.
- Ferguson, K.S. (1996). 'Shortest move and object case checking', in W. Abraham et al. (eds.), *Minimal ideas*. Amsterdam/Philadelphia: Benjamins, 97-111.
- Hashimoto, A. (1971). 'Mandarin syntactic structures', *Unicorn* 8: 1-149.
- Hashimoto, M.J. (1988). 'The structure and typology of the Chinese passive construction', in M. Shibatani (ed.), *Passive and Voice*. Amsterdam/Philadelphia: Benjamins, 329-354.
- Holmberg, A. (1986). *Word order and syntactic features in the Scandinavian languages and English*. Doctoral dissertation, University of Stockholm.
- Huang, C.-T. James (1982). *Logical Relations in Chinese and the Theory of Grammar*. Doctoral dissertation, MIT.
- (1999). 'Chinese Passives in Comparative Perspective', *The Tsing Hua Journal of Chinese Studies (New Series)* 29, 4: 423-509.
- Larson, R. (1991). 'Some issues in verb serialization', in C. Lefebvre (ed.), *Serial Verbs: Grammatical, Comparative and Cognitive Approaches*. Amsterdam/Philadelphia: Benjamins, 185-210
- Li, C., and Thompson, S. (1973), 'Serial verb constructions in Mandarin Chinese: Subordination or coordination?', in C. Corum, T.C. Smith-Stark and A. Weiser (eds.), *You Take the High Node and I'll take the Low Node: Papers from the Comparative Syntax Festival*. Chicago: Chicago Linguistic Society, 96-103.
- (1974). 'An explanation of word order change SVO>SOV', *Foundations of Language* 12: 201-214.
- Li, Jinxi, and Shiru Liu (1955). *Zhongguo yufa jiaocai* [Teaching materials on Chinese Grammar]. Beijing: Wushinian chubanshe.
- Li, Y.-H. Audrey (1985), *Abstract Case in Chinese*. Doctoral dissertation, USC.
- (1990). *Order and Constituency in Mandarin Chinese*. Dordrecht et alibi: Kluwer.
- (2001). 'The *ba* construction'. Ms.; available at: www.usc.edu/dept/LAS/ealc/chinling.
- Longobardi, G. (2001). 'Formal syntax, diachronic Minimalism, and etymology: The history of French *chez*', *Linguistic Inquiry* 32, 2: 275-302.
- Lü, Shuxiang et al. (eds.) (1980/1995). *Xiandai hanyu babaici* [Eight hundred words of Modern Chinese]. Beijing: Shangwu chubanshe.
- Ma, Beijia (2003). 'Zai hanyu li shi fenxi zhong ruhe qufen dongci he jiecǐ [Methods to distinguish between verbs and prepositions in the historical analysis of Chinese]', *Zhongguo yuwen* 2003, 1: 59-65.

- McCawley, J. (1992). 'Justifying part of speech assignments in Mandarin Chinese', *Journal of Chinese Linguistics* 20, 2: 211-245
- Newmeyer, F. (1998). *Language Form and Language Function*. Cambridge, Mass.: MIT Press.
- Ohta, Tatsuo (1958). *Chuugokugo rekishi bunpoo* [History of Chinese Grammar]. Tokyo: Hooyu shoten. [reprint 1981]
- Paul, W. (2002). 'Proxy categories in phrase structure theory and the Chinese VP', *Cahiers de Linguistique - Asie Orientale* 31, 2: 137-174.
- Peyraube, A. (1985). 'Les structures en *ba* en chinois médiéval et moderne', *Cahiers de Linguistique - Asie Orientale* 14, 2: 193-213.
- (1996). 'Recent issues in Chinese historical syntax', in C.-T. J. Huang and Y.-H. Li (eds), *New Horizons in Chinese linguistics*. Dordrecht et alibi: Kluwer, 161-213.
- Roberts, I. (1993). Directionality and word order change in the history of English. In: Van Kemenade, A. & Vincent, N. (eds.). *Parameters of morphosyntactic change*. Cambridge: CUP, pp. 397 - 426.
- Roberts, I. and Roussou, A. (1999). 'A formal approach to grammaticalization', *Linguistics* 37, 6: 1011-1041.
- Ross, C. (1991). 'Coverbs and category distinctions in Mandarin Chinese', *Journal of Chinese Linguistics* 19, 1: 79-115.
- Ross, J.R. (1967). *Constraints on variables in syntax*. Doct. dissertation, MIT.
- Shen, Pei (1992). *Jiagu buci yuxu yanjiu* [Research on the word order in oracle bone inscriptions]. Taipei: Wenjin.
- Tang, C.-C. Jane (1990). *Chinese Phrase Structure and the extended X-bar Theory*. Doctoral dissertation, Cornell University.
- Sybesma, R. (1992). *Causatives and accomplishments. The case of Chinese ba*. Doctoral dissertation, Leiden University.
- (1999). *The Mandarin VP*. Dordrecht et alibi: Kluwer.
- Wang, Li. (1958). *Hanyu shi gao* (zhong) [Outline of the history of Chinese, vol. 2]. Beijing: Kexue chubanshe. (reprinted in: Wang, Li (1988). *Wang Li wenji* [Collected works of Wang Li], vol. 9.).
- Whitman, J. (2000). 'Relabelling', in S. Pintzuk et al. (eds.), *Diachronic Syntax: Models and Mechanisms*. Oxford: Oxford University Press, 220-238.
- Wu, Meng (1982). '*Ba* zi yongfa er li [Two illustrations for the usage of *ba*]', *Zhongguo yuwen* 1982, 6: 434.
- Zhu, Minche (1957). 'Lun chuqi chuzhi shi [On the early disposal form]', *Yuyanxue luncong* 1: 17-33.
- Zou, Ke (1993). 'The syntax of the Chinese *ba* construction', *Linguistics* 31, 4: 715-36.