

# The Handbook of Chinese Linguistics

Edited by

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and Andrew Simpson*

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# 21 Historical Syntax of Chinese

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SHENGLI FENG

## 1 Introduction

Chinese historical syntax is a relatively young subfield of Chinese linguistics. In spite of sporadic (yet important) earlier works, it has become a prominent area of active research only in the past two decades, particularly after the publication of Peyraube's (1996) comprehensive survey article, which reviewed important pioneer works on the subject up to that time and has subsequently attracted scholars and students of different generations into this field of study. The topics covered in Peyraube's article include all major changes in Chinese historical syntax, concerning such topics as word order, the disposal *ba*-construction, the passive *bei*-construction, the dative construction, the postverbal locative construction, the perfective aspectual marker *le*, coordinate conjunctions, Verb+Resultative (VR for short) structures, and classifiers. The article also put together important theories on diachronic change, including notions such as grammaticalization, analogy, reanalysis, as well as major mechanisms like lexical replacement, lexical unification, information informativeness, semantic specialization, and external borrowing. Now, grammaticalization as an independent discipline has become one of the most recognized subfields in Chinese linguistics, and Peyraube's article is still an essential resource for professionals and students who are interested in the subject.

### 1.1 *The beginning of Chinese historical syntax*

It is difficult (if not impossible) to make another survey on the subject matter after Peyraube (1996) "put together such an informative and perceptive survey of the facts of 3,500 years of recorded Chinese sentence structure and of the most important views of the mechanisms by which Chinese syntax has changed over the

millennia" (McCawley 1997: 345). As the field continues to flourish today, however, it is worthwhile looking back and seeing how the research has moved forward since, and reflecting on the analytical frameworks used and the new insights reached during different times.

Historically, the earliest studies on the Chinese language were documented around the third century (Behr 2004), but they were mainly exegetical and philological in nature. The commentators' works on ancient classics were focused more on semantics, etymology, and lexicology than on morpho-syntax. This is because, as Behr (2010) pointed out, "if anything, the lack of morphological analysis in the premodern traditions seems to hinge more upon the constraints imposed by a morphosyllabographic writing system, than on the lack of the categories in the language itself" (2010: 580). After the 1930s, however, the characteristics of the research models and scholars' mentality changed considerably. Influenced by the structuralist approaches of Bloomfield and others, two important works on the history of Chinese appeared in mid century: Li Wang's (1958) *Hanyu Shi Gao* [Sketches of the History of Chinese Language] and Fa-kao Chou's (1959, 1961) two-volume compendium *Zhongguo Gudai Yufa* [A Historical Grammar of Ancient Chinese]. These two voluminous works focused on the grammar (morphology, phonology, and syntax) of Archaic Chinese (i.e., the language used before AD 200) and remain as masterpieces in the study of Chinese diachronic grammar.

An important shift in research interests took place after the works by Lü (1955), and especially those by the Japanese scholars Ota (1958) and Shimura (1974), were brought to the attention of the field. These works pointed to a new direction of diachronic study and have since shifted scholars' attention from the Pre-Qin language to medieval vernacular texts. Historical linguists and students soon started to look at the grammatical changes of Medieval Chinese (MC),<sup>1</sup> and numerous important contributions have been produced since then, including, but not limited, to Liu and Cao (1989), Pan (1982), Pulleyblank (1995), Mei (1999, 2004), S. Jiang (2004, 2008), L. Jiang (1989, 2000), Cao and Yu (2006), C. Feng (2000), Tang (1987, 1988), and so on.

Why was there a sharp turn from the earlier exclusive attention on the traditional Pre-Qin grammar to a new interest in the medieval vernaculars? The reasons can be very complex and belong to the field of intellectual history. One possibility could have been the intellectual challenge and the methodological advancement that presented themselves to the researchers.

Ota's (1958) and also Shimura's (1974) studies inspired scholars to look at the data from different perspectives, through which they realized that what was once believed to be true was in fact not the case. A typical example of this kind is the VR construction. 撲滅 *pu mie* "swat-extinct" was considered an example at "the beginning of the VR construction" (Pan 1982: 230) that occurred as early as 1000 BC in *Shang Shu* or *The Book of History* (see also Chou 1961: 177). However, under the new analyses by Ota and Shimura, respectively, the once-believed VR forms (including the oldest one in *Shang Shu* as well as all the other VR forms before or during the Archaic period (AD 100)) are actually coordinated structures. The real

cases of VR constructions, according to Ota (1958), were not fully developed until the Early Tang Dynasty (*ca.* AD 600). The astonishing results shifted scholars' attention from looking at the surface patterns of sentences to looking at the internal structure of the old and new competing forms in a more analytical way, an approach which has had a great impact on the study of Chinese historical syntax. Mei (1981, 1991) is probably the most influential scholar who has breathed this fresh air into the Chinese linguistic community and developed the new approach further in many aspects. The following is a good example of his keen recognition of the complementary distribution between (1a) and (1b) regarding the use of the verb complexes *V-sha* "V-kill" and *V-si* "V-die":

- (1) a. 岸崩,                    盡壓殺臥者,  
       an beng,                jin ya-sha wo zhe,  
       shore collapse, all squash-kill lie Prt.  
       少君獨得脫,                不死。        《史記》 *Shiji*  
       shao jun du de tuo,        bu si  
       young-prince only get escape, not die  
       "The shore collapsed and it squashed and killed those who lied here.  
       Only the young prince got to escape and did not die."  
 b. 暮寒,                    臥炭下,  
       mu han,                wo tan xia,  
       evening cold, lie coal below,  
       百餘人炭崩盡壓死。                                《論衡》 *Lunheng*  
       bai-yu ren tan beng jin ya si.  
       hundred-plus people coal collapse all squash die  
       "In a cold evening, more than hundred people slept beneath the charcoal  
       and were squashed and died when the charcoal collapsed."

As pointed out by Mei (1991), no object had ever occurred after the verb complex *V-si* (i.e., [S V-si \*O]) during or before the Han Dynasty. This is so because, as Mei argued based on Ota's proposal, *si* "die" in the environment of [S V-si] is always used as an intransitive verb, indicating that intransitive verbs that could co-occur with an object, such as *bai* "lose" in *zhan-bai Wei shi* "fight-defeat Wei army" (*Zuozhuan Zhuanggong* 28), are actually used causatively, because a causativized verb like *bai* "cause to lose" > "lose" is able to share the same object with a preceding (or following) transitive verb like "fight" or "kill." As a result, the once-believed archaic VR forms before the second century are not considered real examples of the VR construction at all, but rather examples of a verb+verb coordinated structure. The VR structure, as correctly pointed out in this study, had not yet been developed at that time.

The importance of the pioneer works during the 1980s and 1990s (among others, see Mei 1981; Peyraube 1989a, 1989b; S. Jiang 1997; J. Liu 1992; L. Jiang

1989; Wei 1994, 1999, 2000; Cao 1999; Liu 1999; Wu 1999 etc.) is that they have advanced the structural analysis to a point where a deeper understanding of the reasons behind the historical changes can be achieved. During the 1990s, the field of Chinese historical linguistics was quickly prompted to look at not only what had been changed (linguistic phenomena) but, more importantly, why they had changed in particular ways (linguistic explanations). Put differently, scholars were now focusing not only on the facts of change but also on the causes for the change, something to which not much attention had been paid previously, as we will see in the next section.

## 1.2 *Some important developments since 1996*

Facts cannot be identified without a theory. From the 1990s onwards, theories and mechanisms of syntactic change were quickly introduced into the field and are still used by researchers today. Among the theories we know now, the most popular and relevant are Greenberg's typology (1966), Meillet's grammaticalization (1912), as well as such mechanisms as reanalysis<sup>2</sup> and analogy. As further development and deeper understanding of these theories was achieved, they, like a telescope, have helped investigators seek findings that they might never have found. One important feature of the post-1990s research on Chinese historical linguistics can be characterized in terms of description coupled with explanation. As said in the above, Mei's important work (1991) shed light on this new direction. Why, for example, had the VV coordinated structure become a VR one? Mei's answer is simply novel: the change is triggered phonologically and the effects are syntactic. More specifically, the decline of the voicing distinction resulted in a decline of causative morphology. To see this more clearly, let me first start with some basics of Archaic Chinese morphology. In Archaic Chinese, when the causative prefix \*s- was added to a verb with a voiced /b/ initial, it caused a devoicing process, thus, for example, OC \*brads "lose" when taking the causative prefix \*s- would undergo initial devoicing, giving \*s-prads for the causative "to defeat," and so on (OC = Old Chinese and MC = Medieval Chinese):

- (2) a. 敗 OC \*brads "to lose" > MC \*bwai  
       OC \*s-brads "to defeat" > \*s-prads > \*prads > MC \*pwai  
    b. 折 OC \*djat "to break" > MC \*zjat  
       OC \*s-djat "be broken" > \*s-tjat > \*tjat > MC \*tsjat  
    c. 現 OC \*giens "to appear" > MC \*gien  
       OC \*s-giens "to see" > \*s-kiens > \*kiens > MC \*kien

After the prefix \*s- was phonologically weakened and finally lost in MC, the voicing contrast was the sole indicator of the inchoative-causative contrast (voicing for the inchoative verb, voicelessness for the causative verb). However, after the Han Dynasty, the phonological system underwent another process of devoicing,

giving rise to a change in *bwai* "lose" to *pwai* "lose." Consequently, there was no voicing distinction any more, which led to the decline of the causative verb. All previous causative verbs were reanalyzed as intransitive, inchoative verbs. As a result, *pai* in [V-*bai* O] (a coordinated structure before Han) was reanalyzed as an intransitive verb, giving birth to the form of a genuine VR structure: [V<sub>r</sub>-V<sub>i</sub> O].

Evidence supporting Mei's analysis is derived from the fact that only after the phonological devoicing period (i.e., the Six Dynasties, AD 400, according to Mei) could the V-*si* forms we saw in (1b) start to take an object, as seen in (3):

- (3) ... 乃打死之      《幽明錄》  
 ... nai da si zhi. (Liu Yiqing, *You ming lu*, fifth century)  
 then beat die him  
 "Then (one) beat him to death."

Leaving other problems aside (see below), this explanation was both descriptively correct and theoretically attractive at that time.

Around the same period, many scholars also developed new explanatory accounts for the old, as well as some new-found, data. Peyraube (1989a), for example, successfully discovered and explained how the verb 把 *ba* in (4a) was reanalyzed as a preposition in (4b) through (i) a serial-verb construction, and (ii) an object-sharing construction, with evidence involving a pronoun *zhi* after the V2 (4e) of the same structure formed by 將 *jiang*. That is: (NP0)+V1 BA+NP1+V2 (4e) → (NP0)+V1 BA+NP1+V2, when NP1=NP2 (taken from Peyraube 1996).

Namely, two steps of diachronic changes had occurred:

- Step I: V1 BA+NP1+V2 (+O2) → Prep.BA +NP1 +V (O2) [instrumental form]  
 Step II: V1 BA+NP1+V2 → Prep.BA +NP1 +V [Disposal form]

- (4) a. 把竿逐鳥雀      (儲光羲《田家雜興》  
 ba gan zhu niaoque (Chu Guangxi *Tianjia Zaxing*)  
 take pole drive-out bird  
 "To take a bamboo-pole (and) drive-out the birds."  
 b. 醉把茱萸仔細看      (杜甫《九日藍田崔氏莊》)  
 zui ba zhuyu zixi kan (Du Fu *Jiu ri lantian cui shi zhuang*)  
 drunk take dogwood careful look  
 "Drunk, (he) took the dogwood and carefully looked (at it)."  
 c. 詩句無人識,      應須把劍看      (姚合《送杜觀罷舉東遊》)  
 shiju wu ren shi,      yingxu ba jian kan.  
 Poems no people recognize, should hold sword read.  
 "No people recognize my poems; (I) should hold a sword and read it."  
 (Yao He *Song Du Guan Ba Ju Dongyou*)



- d. 閑常把琴弄。 任華《寄杜拾遺》  
 xian chang ba qin nong. (Ren Hua *Ji dushiyi*)  
 idle ba music-instrument play  
 "when (I) have nothing to do, (I) will take the musical instrument to play."
- e. 船者乃將此蟾以油熬之 (陸勳：《志怪》)  
 chuan zhe nai jiang ci chan yi you ao zhi. (Luxun *Zhi Guai*)  
 Boat the-one-who then take this toad with oil fry it  
 "The boatman then took that toad (and) fried it in oil."

(4a) represents the structure of [V1 BA+NP1+V2 (+O2)] which changes into [Prep.BA +NP1 +V (O2)], that is, (4c) "read by holding a sword." And finally, (4b) is reanalyzed as (4d) where the *ba* and V share the same object. The fact that a pronominal object *zhi* could be co-indexed with the *jiang/ba*-object in (4e) is an important discovery, providing a solid structural foundation for later research on the disposal *ba*-construction.

In another study on passive sentences involving *jiao* and *yu*, S. Jiang (2002) and L. Jiang (1989, 2000) showed how reanalysis is conditioned on specific structures, evidenced by how *jiao* and *yu* were causative verbs originally and later reanalyzed as passive markers within the structure given in (5a) and exemplified in (5b-c).

- (5) a. N1 (agent) + V1 + N2 (target of giving/agent of V2) + V2 (S. Jiang 2002: 163)
- b. 彼王早知如是次第，何妨與他修行。《祖堂集》4.036 (*Zutangji* 4.036)  
 Bi wang zao zhi ru shi cidi, he-fang *yu* ta xiuxing.  
 That King early know like this situation, why-not make him practice-Buddhism  
 "That King knows this situation already and (we) may make him to practice Buddhism as well."
- c. 和尚是高人，莫與他所使。《祖堂集》1.080 (*Zutangji* 1.080)  
 Heshang shi gao ren, mo *yu* ta suo shi.  
 Monk be talented person, not *yu* he Obj-Pronoun use  
 "The monk is a talented person, (we should) not be used by him."

(5) represents both the thematic structure of causatives (*yu* 與 = causative verb, thus "N1 let=V1 N2 do=V2") and that of passives (*yu* 與 = passive marker, thus "N1 got=V1 N2 V2-ed"), so that reanalysis took place naturally in that environment.

Syntactic change is a structural change, and this analysis (and many others that followed) quickly inspired scholars of younger generations. Wu (2003), for example, conducted his research in terms of changing conditions on structurally defined universal principles, as seen in (6).

## (6) Two types of [V &gt; P]

## a. Type-I: Comitative preposition &gt; Coordinating Conjunction

- (i) 昔吾嘗共人談書 《顏氏家訓·勉學》
- Yanshijiaxun Mianxue*

Xi wu chang gong ren tan shu

Before I ever with people read book

"I had ever discussed books with others."

- (ii) 正言共精義并用 《文心雕龍·徵聖》
- Wenxindiaolong Zhengsheng*

Zheng yan gong jing yi bing yong.

Correct word and essence meaning together use

"The correct language and profound meanings are used together."

## b. Type-II: Comitative preposition &gt; instrumental preposition &gt; manner preposition (taken from Peyraube and Li 2008)

- (i) 走父以其子子孫孫寶用。 (食仲走父鬻)

Zoufu yi qi zizi-sunsun bao yong

Zoufu and his son-grandson treasure use

"Zoufu and his descendants will treasure and use it."

- (ii) 夫子... 博我以文, 約我以禮。 《論語·子罕》

Fuzi... bo wo yi wen, yue wo yi li.

Confucius... broadens me with culture, restrict me with ritual

("Confucius educates me with culture and restricts me with ritual.")

- (iii) 節用而愛人, 使民以時。 《論語·學而》

Jie yong er ai ren, shi min yi shi.

Save resource and love people, use people by situation

"To save the resources and to love people; to use the manpower according to the situation."

The result of his research not only confirmed once again those of previous studies, that prepositions had developed from verbs (Liu and Cao 1989; Liu and Peyraube 1994), but also showed for the first time that different types of prepositions had actually developed from different syntactic positions. Namely, the Type I of [V>P] is conditioned on pre-verbal positions (as in Chinese) while the Type-II is developed from post-verb positions (as in English and French). The conclusion is, therefore, convincingly reached that coordinating conjunctions would evolve from comitative prepositions only if the latter occurred pre-verbally; which explains why comitative prepositions in English could not become coordinating conjunctions, in contrast to those of Chinese that did, simply because English prepositions occur post-verbally more often and are hence much more difficult to reanalyze as coordinating with the subject. Nevertheless, what if a comitative preposition occurs both pre- and post-verbally, like *yi* in pre-Archaic Chinese? It is then expected that both conjunctions at the pre-verbal position and instrumental (and manner) prepositions at the post-verbal position could be developed accordingly. Djamouri (2007) and Peyraube and Li (2008) showed that this is precisely the case, as the theory predicted (6bi/ii/iii). Here again we see another case of explanatory

power based on appropriate structural deductions and analyses (see also Hong 2000, for exegetic parallel development).

Structure is internal to language, but it can also be captured and studied externally. In Cao's (2010) important work, we see a process of syntactic change through language contact, an area that was once considered merely a possibility but now has some concrete and clear evidence. The case at hand is the disposal *jiang* and *ba*-construction (eighth–tenth century) that may be analogized from an early structure [*qu* (=take) O V] borrowed from the Buddhist scripture translations (second–fifth century). The hypothesis is that the phrase *qu men bi* “qu door close” that occurred in the late Han Buddhist translation is, as argued by Cao (2010), no different from the disposal *ba* sentence like *ba Hangzhou Cishi qi* “ba Hangzhou Governor cheat” = “cheated the Hangzhou Governor” that was used in the tenth century. However, the disposal structure (i.e., [*qu* O V]=[V<sub>take</sub> O<sub>i</sub> V t<sub>i</sub>]) can be neither found in the Han native documents nor allowed by the syntax at that time. It is then highly possible that the [*qu* O V] structure was transferred from the Sanskrit Buddhist origin by way of translation. Even if more information and analyses are needed to pin down the exact process of the borrowing, this is possibly the most convincing example we have seen for syntactic borrowing in literature.

Another example of structural borrowing from the Sanskrit origin, as argued in Zhu (1995, 2008), is the missing agent preposition in a passive construction like (*wei*) *niao suo shi* “(by) birds prt-eaten = eaten by birds,” which is otherwise rarely found in Chinese texts of that period and, as claimed by Zhu, is certainly prompted by the frequent use of the passive voice in the Indic texts. It is true, as many have pointed out, that hybrid Chinese is found almost everywhere in translated Buddhist texts since the Han Dynasty. However, the linguistic nature of hybrid Chinese is still an open question: How does the translation process activate parameterization of the grammatical system?

A related study carried out by Zhang (2011) on dialectal syntax, an important area of language change established by Hashimoto (1976), has recently generated some new observations and arguments. He noticed first that the most obvious syntactic difference between northern and southern dialects in China is the double-object construction, namely, the northern [V IO DO] (給我一本書 *gei wo yi ben shu* “give me a book”) and the southern [V DO IO] (e.g., the Cantonese 畀本書我 *bei bun syu ngoh* “give a book me > give a book to me”), a difference which can be explained by structurally internal reasons (unlike Hashimoto's external contact). However, a remarkable difference between Northern and Southern syntax is that only in the Southeastern dialects (and classical Chinese), is the [S V DO [P+IO]] grammatical, in violation of what Huang (1984) proposed as the Phrase Structure Condition for Modern Chinese.<sup>3</sup> Starting from the Yuan Dynasty, Zhang argued, the traditional [V IO DO] structure declined in the Northern dialects in contact with SOV non-Chinese languages, which do not allow post-verbal complements (either object or PP). Thus, the constraints on [S V DO \*[P+IO]] in northern dialects in China are seen as borrowed into Northern languages through language contact. Of course, further structural analyses are needed to refine the conclusion in many

aspects. Dialectal syntax is, however, a new area important to diachronic syntax (see Yang 1991, 1992, and Xing 2011, for recent studies in this area).

Last, but not least, is the detailed comparison of morpho-syntactic properties between Archaic and Middle Chinese by Wei (2003). He carefully collected and examined all known cases of changes around the Han period and made, for the first time, a list of syntactic changes from Archaic Chinese to Medieval Chinese, as seen below (taken from Wei 2003 with modifications):

(7) Contrastive properties of Archaic and Middle Chinese:

- a. Morphology
  - AC: derivation by affix, derivation by voicing distinction, and segmental morphemes
  - MC: compounding, derivation by tone, tonal and syllabic morphemes
- b. Light verbs
  - AC: phonetically null light verbs, verb movement
  - MC: phonetically realized light verbs, no verb movement
- c. Affixes
  - AC: consonant affixes, e.g., \*s- (causative), \*-s (derived nouns)
  - MC: syllabic affixes, e.g., a-N 阿-N, lao-N 老-N, N-zi N-子], N-er N-兒
- c. Conjunction
  - AC: [V & V] verb conjunction
  - MC: No verb conjunction: \*[V & V]
- d. Gapping
  - AC: [SVO]&[SO]<sup>4</sup>
  - MC: \*[SVO]&[SO]<sup>5</sup>
- e. Coordinative compound
  - AC: [V & V] (斫而小之 *zhuo er xiao zhi* "cut and make it small")
  - MC: [Verb-Resultative] compound (斫小它 *kan-xiao ta* "cut-small it")  
[Adverb-Verb] compound (爭殺 *Zheng-sha* "struggle-kill, go-forwardly-kill")
- f. Case for pronouns
  - AC: pronouns have cases (*zhi* 之 = accusative case, *qi* 其 = genitive case)
  - MC: no case markers
- g. Plural markers
  - AC: no evidence of plural markers
  - MC: plural semi-morpheme *-men* (mainly for subject)
- g. Third person pronoun
  - AC: no third person pronoun (using demonstrative pronoun)
  - MC: *he* 他 "he, she"
- h. Copular
  - AC: no copular
  - MC: copular verb 是 *shi*

- i. Preposition position  
 AC: [PP + V] or [V+PP]  
 MC: [PP + V] (free) and [V+PP] (limited)
- j. Localizer  
 AC: no localizer  
 MC: N + localizer
- k. Classifiers (light nouns)  
 AC: no classifiers  
 MC: number + classifier + N
- l. Comparison  
 AC: [NP1 Adj. [ru NP2]] "NP1 Adj. than NP2"  
 MC: [NP1 [xiang NP2 yiyang] Adj.], "NP1 Adj. than NP2"
- m. Aspectual markers  
 AC: [yi 已 V] "already V", [V yi 矣] (perfective)  
 MC: perfective aspect marker *-le*, progressive aspect marker *-zhe*, and experiential aspect marker *-guo*
- o. Direction verb  
 AC: [direction-V + V]<sup>6</sup>  
 MC: [V + directional complement]
- p. Passives  
 AC: (i) Patient V, (ii) Patient V *yu* Agent, (iii) Patient *wei* agent (*suo*-) V, (iv) Patient *jian* V;  
 MC: (i) [Patient *bei* (agent) V (NP)], (ii) [Patient *jiao/rang* Agent V (NP<sub>retained object</sub>)],
- q. Word order  
 AC: Negator-Pronoun-Object+V  
 MC: Negator+V+Pronoun-Object
- r. *wh*-movement  
 AC: *wh*-object + V<sub>t</sub>  
 MC: V + *wh*-object
- s. Nominalization *zhi* lost  
 AC: nominalizer *zhi*, [S+之+VP (ye)] "[That S+VP]"  
 MC: lost nominalizer (*zhi*),
- t. Relativization  
 AC: movement of object pronoun *suo*: [S+ *suo* + V] "The O that S V"  
 MC: lost movement *suo*

As the diachronic study progressed, more and more syntactic changes in Classical Chinese were discovered, which has consequently changed the traditional view that Classical Chinese grammar is not so different from that of Modern Chinese.<sup>7</sup> In fact, remarkable progress has been made in the past 20 years, not only in terms of new facts discovered, but more importantly the new theories developed and new understandings achieved. For instance, the key notion of grammaticalization was seen as "a subset of changes involving reanalysis" by Hopper and Traugott

(1993), but it is further clarified by S. Jiang (2004) that it is in fact not under the notion of reanalysis because grammaticalization and reanalysis do not have a one-to-one correlation and there can be reanalysis without grammaticalization. This argument has greatly deepened our understanding of the mechanism of grammatical changes. What is reanalysis then? It is a process, as Sun (1994) once emphasized, of changing a structure without modifying its surface manifestation, which can be diagramed as  $((AB)C) \rightarrow (A(BC))$ . It is now considered, especially since the important work of Peyraube (1991, 1996), that "analogy, grammaticalization and external borrowing have thus been defined as major processes of syntactic change in Chinese."

As we can see from the above discussions, there have been important new developments since the 1990s in the field of Chinese historical syntax, not only in terms of functional analyses, as seen before, but also from generative perspectives, as we shall see below.

## 2 Generative analyses of historical Chinese syntax

Although most works carried out in Chinese historical syntax are under the framework of functionalism, there are also explorations of the same subject within generative grammar (i.e., the theory of Principles and Parameters, and that of the Minimalist Program). The purpose of the generative enterprise is to understand the nature of the human language instinct (Universal Grammar) and how it enables the "growth of grammar" and sets the limits for variation among different grammars. Since diachronic change is one important source that gives rise to synchronic variation among related languages, an adequate theory of the limits of linguistic change is also a major concern of generative linguistics. As seen below, the scenario of change in syntax is quite different from the theoretic presumptions assumed in functionalism. In what follows, I will first sketch the major theories and proposals about language change (Section 2.1), and then I will discuss some works on Chinese historical syntax that have recently been carried out under the generative framework (Section 2.2).

### 2.1 Theory of change

Although there is nothing that is not constantly changing, change is not without limit. The first question diachronic syntacticians are faced with, is whether language is stable or constantly changing. The answer, of course, depends on what one looks at: the internal system of a language *or* its external environment; the internal interactions between different components of grammar *or* the biologically conditioned human language faculty. As far as the language faculty is concerned, no evidence has been reported to show a variation between human beings in their bio-linguistic grammatical system (Kroch 2001). In other words, the biologically based grammatical system is stable. It is, therefore, important for diachronic syntacticians to expect that even though changes may take place all the time

(triggered either linguistically or environmentally), they do so only in certain limited ways.

How could a change in language be possible anyway? As pointed out by Kroch (2001), "language change is by definition a failure in the transmission across time of linguistic features." Who transmits what features? And who fails to receive the features? In answering these questions, we come to the notion of learnability. When children (as well as adults) learn a (first or second) language, errors are inevitable and some of them will cause the language to change. This perspective on the cause of change shows the need for data collection and data examination for chronological identification of tokens of language change produced by different generations, and the necessity for calculating the rate of change in order to see if it is robust enough to provide triggering experiences for the next generation to set the parametric choices of a new grammar (see Yang 2000 for a detailed model of variational acquisition). In other words, historical data must be (directly or indirectly) related to speakers and their triggering experiences (Lightfoot 1979, 1981; Kroch 2001; Roberts and Roussou 2003; Roberts 2007).

What are the processes or mechanisms of misinterpretation made by the younger generations on the grammar used by older generations? Two notions, reanalysis and grammaticalization, are essential for the generative theory, but they are different from those used by Meillet (1912). For Meillet (and most researchers) grammaticalization is understood as the process through which some lexical items undergo changes of category shifting and/or semantic weakening. This is not wrong, but it is viewed more specifically in generative grammar as "a regular case of parameter change" (Roberts and Roussou 2003) involving (a) structural simplification in the sense of movement lost and (b) a reanalysis of a lexical head as functional head – a category change through (i) semantic bleaching and (ii) phonological reduction. As a result, grammaticalization is an internal change that is seen as a common parameter setting by language learners, activated synchronically and processed diachronically.<sup>8</sup>

There is some notable difference between the classical model of the Principles and Parameters (P&P) theory and its current conception as incorporated in the Minimalist Program (MP), especially in the form of a parameter assumed to be responsible for certain given variation. Unlike the earlier parameters, which may refer to underspecified properties of certain principles, current MP research attributes parametric differences to the nature of the lexical item defined over relevant syntactic features. Within the theory of P&P, historical syntacticians look for what may constitute a possible parameter at a certain time that could have triggered a cascade of effects. Within MP, on the other hand, language change is analyzed by taking properties of individual lexical items (especially functional categories) into account. Thus, diachronic change in MP is understood as a small differences in how features, with given values, relate to each other. More specifically, the MP framework attributes variations among languages to the way functional categories are phonetically realized cross-linguistically; that is, languages vary with respect to the visible exponents of functional categories (Roberts and Roussou 2003). The MP theory is specially relevant to the study of

Chinese historical syntax because (i) the study of functional categories (empty word 虛詞 *xuci* in traditional Chinese terms) has been a long tradition in Chinese linguistics and (ii) cross-linguistic variations result from differences regarding the features that have PF interpretation, achieved either by movement, lexical insertion, or both. The grammaticalization of *ba* is such an example in the sense that *ba* was originally a verb, that became a functional head (Whitman 2000) by moving up the tree to a head position above VP and below a higher *vP*, a case of grammaticalization by merge (lexical insertion) and movement. What we will see below are some diachronic analyses on Chinese syntactic change within the framework of generative grammar.

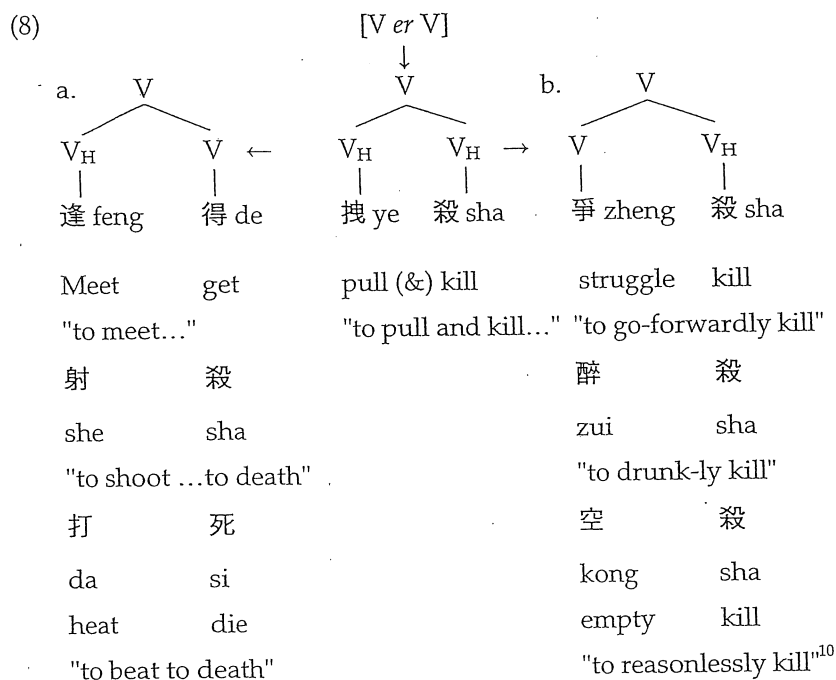
## 2.2 Some diachronic changes in Chinese syntax in generative perspective

2.2.1 VR construction As we saw earlier, the novel explanation for the emergence of the VR construction by Mei (1991) is not without problems. First, why is it that *V-si* "V-die" cannot take an object in early Archaic Chinese? One answer could be: the intransitive verb *si* "die" had never been used causatively, thus it could not be combined with a  $V_t$  (transitive verb, thereafter) to share an object in a VV (double-verb) structure. If this was the case, then, why was the *V-si* able to take an object when the causative morphology was lost? (It never took an object even when the causative morphology was still active.) One might say that this happened by analogy with the  $[V_t V_t O]$  forms whose causative V2 had become intransitive/inchoative. If that is the case, one may ask why an analogical process did not happen in the first place (i.e., during the Western Han, 200 BC) and why must it take 500 years to have the  $V_t V_t$  forms imposed on  $[V_t + V_i]$  combinations? Obviously, analogy cannot give structural reasons as to why an intransitive verb ( $V_i$ ) was unable to take an object with a transitive verb before (i.e.,  $[V_t V_i *O]$  before AD 200), but it could do so after, AD 200 ( $[V_t V_t O]$ ).<sup>9</sup> This problem was pointed out and solved by a generative analysis given by Huang (1995), who proposed a change in the internal structure of the VV combination, from head-final to head-initial, during the period of the Han to the Six Dynasties, that is,  $VV_H > V_H V$ , where  $V_H$  is the head of a VV-combination. Within the structure of  $VV_H$ , the intransitive verb *si* "die" is the head, and this makes the whole structure ( $[V_t - si]$ ) intransitive and unable to take an object. On the other hand, when the head direction changed from a final to an initial position in the  $[VV]$  structure, the transitive verb  $V_t$  in  $[V_t - si]$  became the head, and hence the whole structure is determined by the head  $V_t$  and therefore can take an object, as predicted. A somewhat different proposal was made in Feng (2002), who capitalized on the available evidence that some of VV combinations had, as their predecessors, a coordinate structure including the coordinate conjunction *er* "and," as in 斫而小之 *zhuo er xiao zhi* "cut and make it small."

Feng suggested that a double-headed compound for the VV was inherited from the traditional coordinated structures, and served as the basis of reanalysis. The result of reanalysis was either a left-headed structure that gave rise to the VR



construction, as in (8a), or a right-headed structure that gave rise to a new type of Adv-V compound, as in (8b).



Given the above analysis, it is not surprising that the VR construction develops alongside that of the Adv-V compounds around the same time in the history of Chinese.

2.2.2 *Ba*-construction As seen from Peyraube's analysis above, *ba* was a verb grammaticalized into an instrumental maker, and finally an object maker, earning the name of *ba*-construction. However, there has been a crucial problem involved in the *ba*-construction all along since the beginning of Wang's study (1958): How could the object-shared structure (9a) possibly be derived from an instrumental preposition structure (9b)?

- (9) a. 醉把茱萸仔細看 《九日藍田崔氏莊》 (By Du Fu *Jiuri Lantian Cuishi Zhuang*)  
 zui ba zhuyu zixi kan  
 drunk take dogwood careful look  
 "Drunk, (he) took the dogwood and carefully look (at it)"

- b. 莫把金籠閉鸚鵡 (By Su Yu) 《鸚鵡詞》 (By Su Yu *Yingwu ci*)  
 mo ba jin long bi yingwu  
 Not use gold-cage shut parrot  
 "Do not shut the parrots in a gold cage."

The question seems never to have been asked, but it is crucial because, as is shown in (9b), the object of the following verb cannot be c-commanded by the object of a preposition, and thus no object-sharing is allowed in the instrument structure, as we have seen in Section 1.2, repeated here as below.

- Step I: V1 BA+NP1+V2 (+O2) → Prep.BA +NP1 +V (O2) [instrumental form]  
 Step II: V1 BA+NP1+V2 → Prep.BA +NP1 +V [Disposal form]

To tackle this problem, Feng (2002) proposed that *ba* was not a preposition but a verb in (9b), construed in the following structure:

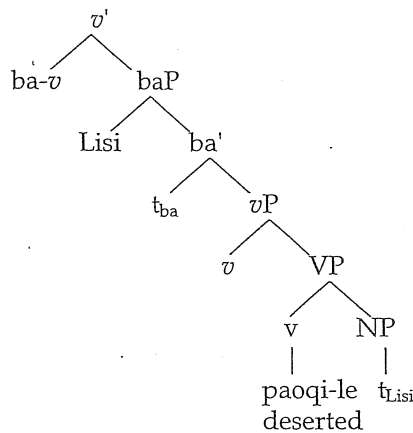
- (10) [<sub>baP</sub> *ba* NP<sub>i</sub>1 [<sub>OP<sub>i</sub></sub> [<sub>VP</sub> [PRO [<sub>v'</sub> V t<sub>i</sub>]]]]]

In contrast, as pointed out by Peyraube (1996), the structure of a true *ba*-construction involved a resumptive pronoun as shown in (11), suggesting that there is an empty operator movement responsible for the object-sharing effect (see passive *bei* construction below).

- (11) 還把身心細認之。(敦煌文書《維摩詰講經文》)  
 hai ba shen-xin xi ren zhi (Dunhuang Wenshu. Wei mo jie jiang jingwen)  
 still ba body-mind carefully recognize  
 "to recognize body-mind carefully."

Then, how did *ba* become grammaticalized as an instrumental maker? According to Whitman (2005), lexical verbs become functional (i.e., grammaticalized) by moving up the tree to a head position above VP and below a higher *v*P. Following this, Whitman (2005) thus proposed that the verb *ba* became a functional head by merge (lexical insertion) and movement, as seen below.

- (12) disposal *ba*:



**Table 21.1** Relative chronology of *bei* passives in Classical Chinese.

<i>Chronology</i>	<i>Origin</i>	<i>Step I</i>	<i>Step II</i>	<i>Step III</i>
400 BC	<i>bei</i> NP			
300 BC	<i>bei</i> NP	<i>bei</i> N/V		
200 BC	<i>bei</i> NP	<i>bei</i> V		
AD 100	<i>bei</i> NP	<i>bei</i> V	<i>bei</i> ADV V	
AD 200	<i>bei</i> NP	<i>bei</i> V	<i>bei</i> (ADV) V	
AD 400	<i>bei</i> NP	<i>bei</i> V	<i>bei</i> (ADV) V (NP)	<i>bei</i> NP V
.....				<i>bei</i> NP V (NP)
Modern	—	<i>bei</i> V	<i>bei</i> (ADV) V (NP)	<i>bei</i> NP V (NP)

Both (10) and (11) explain why *ba* is a verb-like functional category and why an object-sharing structure is possible.

2.2.3 *Bei*-construction The passive *bei* structure is one of the most intensely studied changes in Chinese diachronic syntax (see among others, Hashimoto 1987; L.S. Jiang 1989; Tang 1987, 1988) and its chronological development is very much clearer by now, as shown in Table 21.1.

Two questions, at least, arise from this state of affairs. First, in the early stages of the *bei* development, no agent is allowed to appear between the *bei* and the following verb (Wang 1958[1980]: 425). The question is: What is the syntactic condition that prohibits the agent NP appearing between *bei* and the following verb? This is a problem in traditional linguistics, because in the structure of later development (after Han) the agent NP standardly appears between *bei* and the following verb. So why is it allowed later?

The second question is concerned with the retained object pronoun. After the agent NP appearing between *bei* and the following verb is allowed, a resumptive pronoun is found in the object position of the passivized verb, as seen in (13).

- (13) a. (李子敖)被鳴鶴吞之。《搜神記》  
 (Lǐ Zǐ'áo) bèi míng hè tūn zhī. (*Soushenji*, ca. AD 362)  
 (Li Zi'ao) get chirping crane swallow him.  
 "Li Zi'ao got swallowed (him) by a chirping crane."  
 b. (天女)被池主見之。《搜神記》  
 (Tiān nǚ) bèi chí-zhǔ jiàn zhī. (*Soushenji*, ca. AD 362)  
 (Heaven woman) *bei* pool-owner see them.  
 "The heavenly fairies were seen (them) by the pool-owner."

How could an object pronoun of the passivized verb possibly be co-indexed with the matrix subject? Note that object pronouns cannot be co-referential with the subject: it is a Principle B violation of the Binding Theory.

- (14) a. \*John<sub>i</sub> likes him<sub>i</sub>  
 b. John<sub>i</sub> bei Bill da le ta<sub>i</sub> yi quan  
 John bei Bill hit Asp. him one punch  
 "John was hit by Bill one punch."

However, the object pronoun in *bei*-constructions (*ta*) must be co-indexed with the subject (John) (14b). This entails that *bei* cannot be a preposition; instead, it must be a verb (Feng 1997). If this is so, the question then is: What is the syntactic status of the *bei*? It is definitely neither a preposition (contrary to what has been assumed traditionally), nor an ordinary transitive verb, as proposed by Hashimoto (1987) and Hsueh (1997).

These two problems are well addressed within the generative framework. The first has to do with prosodic syntax developed under the generative approaches (Feng 1995), within which we see that, during the phase of Step I (i.e., 300 BC) seen in Table 21.1, the prosodic system of the language started to change from a moraic foot structure to a disyllabic foot structure, under which the [*bei* N/V] structure was reanalyzed by two processes: one is a category change from [*bei* N] to [*bei* V] syntactically; the other is a morphological change from [*bei* V]=phrase to [*bei* V]=PrWd prosodically. The [*bei* V]<sub>PrWd</sub> is further lexicalized as a [*bei*-V]<sub>compound</sub>. When [*bei* V] was produced as a compound (300 BC–AD 100), no agent was allowed inside the [*bei* V] compound. However, when disyllabic forms (including VV disyllabic verbs) were produced more and more under the pressure of disyllabic prosody, some interesting things happened: the trisyllabic *bei*+VV seen in (15), like all trisyllabic [verb+complement] forms, can only be a phrasal category and can no longer be formed and interpreted as a compound (see Feng 2000). In other words, it is the prosody that forces the trisyllabic *bei*+V<sub>σσ</sub> forms to become phrases, giving birth first to [*bei* [<sub>VP</sub> V<sub>σσ</sub>]], and then to the [*bei* [<sub>VP</sub> NP<sub>agent</sub> V]] structure.

- |      |     |             |                 |                              |
|------|-----|-------------|-----------------|------------------------------|
| (15) | 被謗  | bei bang    | "got slandered" | ( <i>shiji</i> , 2482.4)     |
|      | 被譏謗 | bei huibang | "got slandered" | ( <i>Lunheng</i> , 2.4.13)   |
|      | 被刑  | bei xing    | "got executed"  | ( <i>Hanfeizi</i> , 14.4.48) |
|      | 被刑戮 | bei xinglu  | "got executed"  | ( <i>Lunheng</i> 80.13.2)    |

With the structure of [*bei* [<sub>VP</sub> NP<sub>agent</sub> V]] coming into being, the second question can be then answered naturally. That is, the co-indexing of the subject with the embedded object is mediated by what is called an empty operator, an A-bar movement proposed in Feng (1997), as follows:

- (16) [NP<sub>i</sub> bei [ OP<sub>i</sub> [<sub>VP</sub> NP V t<sub>i</sub> ]]]

This structure, as further developed in Huang (1999) for Asian passive constructions, explains not only why there can be a resumptive pronoun or a retained

(inalienable) object NP in the object position, but also why the object pronoun *suo* (Chiu 1995; Ting 2005, 2008) can occur with the lowest verb in the *bei*-construction.

2.2.4 *Wh*-movement Another area of diachronic change where generative theories apply is the well-known phenomena of *wh*-movement, which was lost during the Han Dynasty. The facts are well attested, but the reasons for why there was such a movement and why it got lost later on are unclear. Xu and Li (1993) and Wei (1999) proposed a focus movement for the *wh*-object to a pre-verbal position. But problems arise with respect to the landing position: Where exactly will the pre-verbal position be? It is argued that the landing site must be lower than the Subject, that is, the Spec of VP (Feng 1996), as evidenced by the complementary distribution of *wh*-word *he* 何 “what/why” in (17) below.

- (17) a. S + he + V = what does S V  
 b. he + S + V = why does S V

In Classical Chinese, *he* 何 can be used either as a complement “what” or an adjunct “why.” When it occurs before the subject, however, it cannot be interpreted as “what,” indicating that the *wh*-object must be moved somewhere in the tree below the subject. What has traditionally been discovered is the fact that the promoted *wh*-object cannot be separated from the verb (Hong and Liao 1980; Xu 1980), which can best be explained by a movement analysis. Feng (1996) proposed a prosodically motivated cliticization of the *wh*-object (from the Spec of VP) onto the verb after the *wh*-movement, while Aldridge (2010) argues that the *wh*-movement was reanalyzed as cliticization in the Han period. The crucial problem is, however: Why must object pronouns also be moved pre-verbally when there is a negation in the sentence before the third century BC, and why were movements lost all together after the Han period? (See Section 21.3 for some hypotheses for tackling these problems formally.)

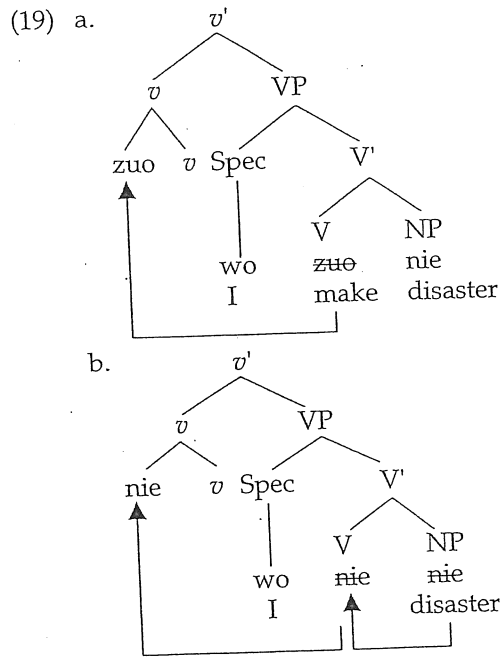
2.2.5 Light verb construction Since Wei (2003), as seen above, historical syntacticians have started to pay a great deal of attention to clusters of changes from OC to MC, and new phenomena are continuously added to Wei’s list. However, it is unclear when exactly, and how precisely, these changes can be grouped together and what the nature of these changes is. A plausible attempt to characterize these changes was made in Feng’s study (2005), who applies Huang’s (1994, 1997) syntax of light verbs to characterize these changes as processes that involve light verb movement in OC, which stopped in MC, thus resulting in a change from synthetic morphology to analytic syntax (see also Huang 2005 and Xu 2006).

Based on the newly discovered verbal affixes (Yakhontov 1960; Mei 2012; Baxter and Sagart 1997), the traditionally recognized transitivity processes in Archaic Chinese can be unified under a light verb analysis within the following structure: [*v* [NP [V (NP)]]]. A wide range of historical evidence is then viewed under this

analysis. In oracle bone scripture, for example, Takashima (2005) observed the following (taken from Shi 2006: 209):

- (18) a. 帝其乍我孽(=孽) (《合集》14184)  
 Di qi zuo wo nie  
 God may make I disaster  
 "The emperor may create a disaster on us."  
 b. "祖乙孽我。(《合集》1632正)  
 Zuyi nie wo.  
 Zuyi disaster I  
 "Zuiyi made a disaster for us."

(18a) has a structure pretty much like "read me a book = [read book to me]," while (18b) is like "thin the gravy = [make the gravy thin]." What is going on here is that the light verb syntax operated in Archaic Chinese in the following fashion (see Feng 2005):



(19a) shows that the verb *zuo* has moved up to an empty (or abstract) light verb position (presumably occupied by an abstract *wei* 為 "DO" as in *wei zuo jun* 為作君 "do make lord = perform being a lord"),<sup>11</sup> creating a ditransitive structure first; and when *zuo* is absent or covert (because it is also semantically light), the lower noun *nie* "disaster" first moves to the position of empty ZUO, and then moves up

to the *v* position (19b), giving rise to a synthesized structure: three heads in one position – a typical characteristic of Archaic Chinese syntax (Shen 2010).

Moreover, the light verb hypothesis explains very well the traditionally recognized four types of special syntactic operations:

- (20) a. Causative      Zhuo er xiao zhi. 斫而小之  
cut and small it.  
“cut it and make it smaller”
- b. Putative        Deng Taishan er xiao tianxia 登泰山而小天下  
climbing Tai Mountain and small world.  
“climb Tai Mountain and you will consider the world  
small.”
- c. Purposive      Si guo ke hu 死國可乎?  
die country can prt.  
“Can I die for the country?”
- d. Denominative   Junzi bu qi 君子不器  
learned-men not utensil.  
“An honorable man is not a utensil.”

Along these lines, a long debated structural puzzle in diachronic Chinese syntax is also resolved: whether 奪之食 *duo zhi shi* “rob him food” is a ditransitive structure like “read him a book” (or “rob him of his food”), or a simple VO structure like “rob his food” (with a different interpretation of the accusative pronoun *zhi* as a genitive pronoun *qi*). Under the light verb analysis, the answer is straightforward: ditransitive structures are natural syntactic processes in Archaic Chinese – as already shown by examples in (18a) (see Peyraube 1986 and 1998 for early discussions on this topic).

Furthermore, an even more covert type of abstract light verb has been revealed as well, as shown in (21).

- (21) a. (鄭伯) 逃其師而歸。《左傳·僖公5》  
Zhengbo tao qi shi er gui (*Zuozhuan·xi gong 5*)  
Zhengbo escape his troops and return  
“Duke Zheng fled from his troops and returned (home).”
- b. 使人召犀首，已逃諸侯矣。《韓非子·外儲說右上》  
shi ren zhao Xishou, yi tao Zhuhou yi (*Hanfeizi·Wai chu shuo you shang*)  
send someone summon Xishou, already escape feudal-lord Particle  
“(He) sent someone to summon Xishou, but (Xishou) had already fled  
to the feudal lord.”
- c. 君討臣，誰敢仇之？《左傳·定公4年》  
Jun tao chen, shui gan chou zhi (*Zuozhuan·dinggong 4*)  
ruler attack subject, who dear enemy him  
“A ruler punishes his subject, there is no one who dares to be his enemy.”

As pointed out in Feng (2009), this type of abstract light verb was later replaced by prepositions during the Han period (221 BC–AD 220).

The light verb operation in Archaic Chinese is highly synthetic in character, so that some triply embedded covert light verbs can be attested further to determine their types and structures, a move which has considerable theoretical implications (see Tsai 2007; Feng *et al.* 2008). For example: 罪我 *zui wo* *guilt me* is possibly synthesized from a phrase with three light verbs in a row: *yi wo wei you zui* “take me be have guilt = to consider me to have guilt,” which may have the structure of [TAKE<sub>v</sub> [NP [BE<sub>v</sub> [ HAVE<sub>v</sub> NP]]]].

Given the synthetic characteristics of light verb syntax in Archaic Chinese, it is further argued that the syntactic operation of verb movement to a null light verb position was replaced by a single lexical verb during and after the Han Dynasty (AD 100), a piece of tangible evidence that syntheticity changed into analyticity in diachronic Chinese syntax (Feng 2010). What is interesting, then, is the fact reported by S.-Y. Wang (1988) that misinterpretations of earlier light verb syntax were found in citations or paraphrases by later generations (after AD 100). For example, the accusative pronoun object *zhi* was misinterpreted as an attributive possessive pronoun *qi*,<sup>12</sup> as seen in (22).

- |   |   |
|---|---|
| <p>(22) Written by Jai Yi 賈誼 (ca. BC 200)<br/>         (天下) 受之饑<br/>         (tianxia) shou <u>zhi</u> ji<br/>         world get <u>him</u> hunger<br/>         “People got hungry from him.”</p> | <p>Cited by Hua He 華覈 (ca. AD 250)<br/>         (天下) 受其饑<br/>         (tianxia) shou <u>qi</u> ji<br/>         world get <u>his</u> hunger<br/>         “People suffered his hunger.”</p> |
|---|---|

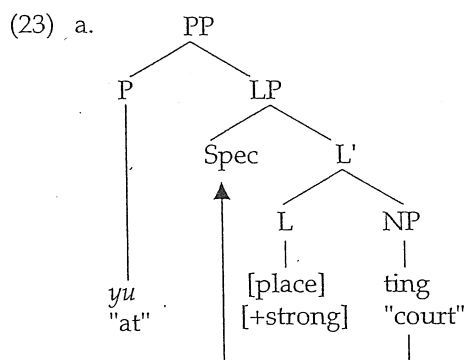
The textual evidence in (22) shows clearly how and where the light verb syntax was changed through “failure in transmission.”

The facts given above reveal that Archaic Chinese is syntactically different from Medieval and Modern Chinese in its light verb syntax. In the Archaic language, the light verb is phonologically null, thus attracting verb movement and giving rise to a variety of verb-raising structures, while in the Medieval and Modern periods, the light verb position is filled with a phonetically realized verb, and thus all the structures created by head movement gradually disappear after AD 100. The phonetically realized light verbs, together with light nouns, as we will see below, mark the typological change from a synthetic to an analytic language.

**2.2.6 Light noun construction** If there are light verbs shelling the VP (where light verbs create a shell for VP, structurally speaking) as proposed by Larson (1991), there may also be light nouns that shell an NP. This is exactly what was suggested by Huang (2005, 2009) in terms of lexical decomposition for nouns in the manner light verbs do for verbs. In Modern Chinese, there are phonetically realized light verbs such as *nong* 弄 “get,” and *gao* 搞 “do/make,” but they were covert in Archaic Chinese, as seen above. Similarly, there are light nouns in Modern Chinese, such as the classifiers and localizers required by nouns when



counting numbers and locating places, respectively. Parallel to covert light verbs in Archaic Chinese, there were covert light nouns in Archaic Chinese, too. How then did the overt light nouns come about in the later periods? It is well known that in modern Chinese, unless the nouns already inherently denote a location, as in proper nouns (e.g., Beijing and New York), they need a localizer (such as *-shang* "top," *-xia* "bottom," *-li* interior . . . etc.) to denote a location. Thus, Huang (2009) takes the localizers as the semi-functional heads of nouns, just like light verbs are semi-functional heads of lexical verbs. In Archaic Chinese, on the other hand, the localizer is covert (or null) but inherently has a [+strong] feature, which triggers movement of the DP to the Spec of LP, as shown in the structure below, as exemplified (Huang 2009).



- b. 八佾舞於庭，是可忍也，孰不可忍也。《論語》 *Confucius Analects*  
 Bayi wu yu ting, shi ke ren ye, shu buke ren ye.  
 8x8 dance at court, this can tolerate Prt. what not can tolerate Prt.  
 "(Confucius said of Jishi) To have the 8x8 grand ball in the house  
 courtyard, if this can be tolerated, what cannot be tolerate."

The difference between Archaic Chinese and Modern Chinese is therefore formally characterized as a loss of the null localizer (i.e., the strong functional feature) and its replacement by phonetically realized localizers. Of course, the development of light nouns parallels that of light verbs. Not only did they occur around the same time, but they also constitute a case of change from synthetic to analytic typology (see also Tsai's 2011 analysis on the Origin of Applicative Structure in Classical Chinese).

### 3 New perspectives in studies of Chinese historical syntax

Although theories are essential for scientific studies, "what is important in scholarly work," as McCawley once said, "is not the analytical framework used but the

insight reached" (Mufwene *et al.* 2005: Overview). This, as we will see below, is what has always been upheld in the field of Chinese historical syntax. Although it is impossible to review all of the new discoveries of the past 20 years (since 1996), some of the insightful proposals will be discussed below.

### 3.1 *Typological change from syntheticity to analyticity*

Following Wei's overview of the changes from Archaic to Medieval Chinese, more and more work on characterizing the nature of these changes has been carried out. However, it is worthwhile noting that the changes from AC to MC were not characterized as typological differences until Kuang Mei (2003), who was probably the first scholar to recognize a crucial change between AC and MC in terms of an across-the-board effect in syntax: the verbal conjunctive *er* was lost and thus the coordinative V2 in [V1 & V2] became a complement in [V1+V2=complement].<sup>13</sup> He then asserted that "the tendency of the entire development of Chinese syntax in the history is from coordination to subordination" (2003: 29).<sup>14</sup> His insight has had a profound influence on the typological study of Classical Chinese.

The earliest work written in English in this area is Xu's *Typological change in Chinese Syntax* (2006), where she convincingly argued that Old Chinese was typologically a "mixed," rather than an analytic, language as usually assumed. Old Chinese typically employed morphological, lexical, as well as synthetic devices and it gradually changed into a more analytical language later on.<sup>15</sup> The mixed nature of the language, of course, deserves serious study and specification.

A clear characterization of the typological difference between Archaic and Medieval Chinese is found in Huang's (2005) study within the GB and MP framework. Early in 2005, Huang discussed syntactic analyticity of Modern Chinese in comparison with the syntheticity of Old Chinese in conference presentations and class teaching. Many of the changes, as listed in Section 1.2, are naturally analyzed in terms of covert functional categories that triggered syntactic movements in early Archaic Chinese and became overt later on, making the language more and more analytic. The covert functional category "localizer," as seen in (23), is one of the examples that Huang (2006, 2009) has studied under the theory of typological change in diachronic syntax in Chinese.

Detailed studies on the typological change are also conducted by Feng (2009), where he proposed that the typological change from syntheticity to analyticity could be captured in terms of the segmental morpho-phonology (e.g., affixes) used in Archaic Chinese and a suprasegmental morpho-phonology (e.g., tones and prosodic features) in Medieval and Modern Chinese.

Another way to look at the synthetic-analytic typological change is through studies under the notion of covert versus overt categories (Hu 2005; Xu 2006). As seen in Sections 2.2.5 and 2.2.6, Chinese grammatical changes have undergone a process from covert to overt categories. The covert-to-overt observation is extremely important to modern diachronic theory, in the sense that languages vary with respect to the visible exponents of functional categories. To what extent did covert elements (i.e., covert functional categories) exist in syntactic diachrony? Hu

(2005, 2008) discovered different types of covert category that became overt around the Han period, as seen in (24).

	Covert	Meaning	Overt	
(24) Types				
a. Inalienable property	fa 髮	hair	tou-fa 頭髮	head-hair
	lei 淚	tear	yan-lie 眼淚	eye-tear
b. Typical property:	xue 雪	snow	bai-xue 白雪	white-snow
	hai 海	ocean	da-hai 大海	big-ocean
c. Target of action:	guan 盥	wash-hand	guan-shou 盥手	wash-hand
	shu 漱	gargle	shu-kou 漱口	gargle-mouth
g. Abstract action:	nu 怒	anger	fa-nu 發怒	rise-anger
	wen 問	ask	zuo-wen 作問	make-ask

A strong claim is also made in Xu (2006: 1) about the covert-to-overt change in Classical Chinese. She asserts that "from the Han onwards, the Chinese language began to exploit overt devices, i.e., syntax, to compensate for the loss in phonological and morphological means." If so, it is then interesting to ask why Chinese underwent such a change from covert to overt categories.<sup>16</sup> Whether or not the division of syntheticity and analyticity will characterize the very properties of the typological transfer in Classical Chinese, the study of the dramatic (or typological) changes from Archaic to Medieval Chinese will continue to be an important new area of Chinese historical syntax in future studies to come.

### 3.2 *Prosodic syntax*

The function of disyllabicity after the Han has long been recognized in Chinese diachronic study (Wang 1958; Chou 1959); but prosody, with its potential effect on language evolution, did not gain much attention until Feng (1995), where he developed a theory of prosodic syntax partially based on diachronic syntax of Chinese and discussed various problems in the literature. As seen above, the *ba*-construction underwent a grammaticalization process in which a lexical verb changed to a functional one (Mei 1990). The process of the initial step (i.e., [*ba* NP V]), however, occurred almost exclusively in poetic or antithetic environments, as famously noticed by Ota (1958) and Shimura (1974). Why, then, was the poetic (or antithetic) environment so important for grammaticalization of the *ba*-construction? Actually, Wang (1958) already gave a partial answer to this question in prosodic terms. He claimed that "when stress shifted from the object of *ba* to the final verb of the sentence, the disposal *ba* construction was born" (1958 [1984]:412; my translation). Unfortunately, not much attention has been paid to this insightful hypothesis because, as far as I can see, there is no theory that could possibly explain either the fact or the hypothesis. Recently, a thorough calculation of the disposal sentences in *Dunhuang Bianwen* (Gao 2011) shows that all disposal *ba* sentences with a bare verb occur in either poetic or parallel sentence

environments. These facts thus call for an explanation, and it is suggested that the object-sharing *ba* sentences were formed as a purposive construction with a focus (+stress) on the object of *ba*, as seen in (4d). It is argued, then, that only in poetic environments can the normal stress be overridden, giving possibilities for a stress-shift from pre-verbal to post-verbal (or verb) positions. Licensed by the poetic environment, the focus position gradually switched to the verb-complement (20), and then it could be used as a vernacular *ba*-contraction. This is why, even today, the bare verbs in the *ba*-construction can still be used freely in childrens' songs (the boldfaced letters represent stress).

- (25) a. Purposive *ba*-construction: [ba NP<sub>i</sub> [V t<sub>i</sub>]] (4d)  
 b. Disposal *ba*-construction: [ba NP<sub>i</sub> [ . . . V-C . . . t<sub>i</sub>]] (4e)  
 c. Poetic *ba*-construction: [ba NP<sub>i</sub> [V t<sub>i</sub>]] (4c)  
 d. Vernacular-*ba* construction: [ba NP<sub>i</sub> [ . . . (V-C) t<sub>i</sub> (XP) ] ] (4e)

It therefore seems that prosody affected syntactic changes in quite a comprehensive fashion.<sup>17</sup> Other examples include: (i) the passive [*bei* VP] structure, as seen above, which was prosodically motivated from the [*bei* VV] trisyllabic forms (see [15]); (ii) the replacement of the null light verb, in general, is also carried out in favor of prosody (Feng 2009); (iii) the Verb+Resultative construction is simply prosodically triggered in the first place: the VV disyllabic combinations were formed out of [V and V] phrases in order to locate focus on the heavy object, and its later development of the [V R N R] (打破煩惱碎 *da-po fannao sui* "hit break worries break") sentences may also involve a prosodic licenser. (The V+V forms are conditioned on Transitivity Harmony of the two verbs. See Feng 2003.) This is so because there are no [V RR N] or [V N RR] forms found in the data, which can be better explained in terms of prosody (see Feng 2002).<sup>18</sup>

The development of classifiers, on the other hand, also exhibits some prosodic motivation: a classifier emerges when the number is monosyllabic (such as *qi* "seven"), while it can be omitted if the number is disyllabic (such as *shi-ba* "eighteen"), in the [N Num CL] structure as seen in (26).

- (26) a. 
$$\begin{array}{c} \text{foot} \\ \diagup \quad \diagdown \\ \text{[NN} \quad \text{[}\# \text{]}_{\sigma} \quad \text{[} \quad \text{]}_{\sigma} \text{]}_{\text{DP}} \\ \text{絮巾} \quad \text{—} \quad \text{CL(枚)} \quad \text{(《居延新簡》 } Juyan \text{ Xinjian)} \end{array}$$
- b. 七枚熱鐵丸 . . . 十八鐵丸 . . . (《法苑珠林》)  
 qī méi rè tiě wán . . . shí-bā tiě wán . . .  
 seven CL hot iron ball . . . ten-eight iron ball . . .  
 "(there are) seven hot iron balls . . . (and) 18 iron ball . . ." (*Fa yuan zhu lin*)

Examples given in (26) clearly show that prosody may also have affected the development of classifiers in Classical Chinese.

The prosodic perspective to Chinese ancient grammar is actually not new. The Han commentator He Xiu (AD 129–182) in his glossary of *Gongyang Zhuan* 《公羊傳·莊公二十八年》 recorded that “when *fa* is pronounced longer, it means ‘to attack’ while it means ‘be attacked’ when pronounced shorter.”<sup>19</sup> Such a way of explaining grammar has been well kept up by traditional philologists.<sup>20</sup> For example, the Qing exegete Duan Yucai (AD 1735–1815) explained the two first person pronouns *wu* 吾 and *wo* 我 in Archaic Chinese as in “*wu sang wo*” “I lost I = I lost myself” (from *Zhuangzi*, third century BC) by saying that although “they both have the same meaning as ‘I’, the pronunciations of ‘heavy-light’ and ‘fast-slow’ for each are different, just like they are used in natural speeches, even if they appear in writing.”<sup>21</sup> To date, many scholars such as Zhang (1938), Yu (1999), Kennedy (1964), Graham (1969), Pulleyblank (1995), Pan (2001), Zhengzhang (2003), and so on, have all followed the same line of thinking in pursuing the prosodic effect on Chinese morpho-syntax (see also Zhao 2014).

In terms of syntactic focus and prosodic weight, Takashima (1999) has made a clear correlation between open/checked vowels versus focused/non-focused words in Archaic Chinese. In line with Takashima, Feng (2012) further proposed that Archaic Chinese may indeed have a different prosodic structure, namely, a moraic foot structure in Archaic Chinese but a disyllabic foot structure in Medieval Chinese.

It seems that a new area of proso-syntactic research is starting to emerge in diachronic studies. Of course, the question remains as to how far the prosodic syntax can go. Or, how deeply and profoundly can prosody affect grammatical change and, if it does, at what levels? Obviously, it is too early for definite answers at this stage, and only time can tell for certain. However, with the newly developed metrical phonological theory (Liberman 1975; Nespor and Vogel 1986; Selkirk 1986) and new computerized techniques to explore it with, Graham’s (1969) concerns about Classical Chinese prosody (intonation and stress that are affected by a person’s interests, mood, and temperament, etc.) should be carefully taken into account in the prosodic grammar investigations on Archaic Chinese.

Multi-dimensional interface studies (integrating semantic, exegetic, and syntactic perspectives) have always been important areas in syntax, and this is also true in historical syntax, especially in recent years of exploration on Chinese historical syntax. New perspectives, insightful approaches, and fruitful issues have arisen, pointing to new directions for future studies. Among them, only a few will be discussed here and are condensed into the following questions.

- (27) a. How do structural changes affect meaning and how do meaning changes affect structure?  
 b. Does meaning change first, or does the structure change first?  
 c. How could covert syntactic features be recovered by exegetic and paleographic principles and techniques?

The first two questions were raised by Peyraube and Li (2008), and the authors proposed two opposite processes: one is a syntactic change driven by semantics

(cf. the *ba* weakened its meaning “hold, grasp” and then became a preposition, as seen [9a/b]); the other is a semantic change driven by syntax (cf. the verb *wei* changed into an interrogative particle, quoting from Jiang 2002) as seen in (28):

## (28) Syntactic change:

- a. 君子質而已矣，何以文為？《論語·顏淵》 *Confucius Analects*  
 Junzi zhi eryi yi, he yi wen wei  
 Gentlemen nature only particle what use sophisticated do  
 “A gentlemen is simply by his nature, what is the use of sophistication?”
- b. 是社稷之臣也，何以伐為？《論語·季氏》 *Confucius Analects*  
 Shi zheji zhi chen ye, he yi fa wei?  
 it nation POS Subject particle, what use attack do  
 “It is paying allegiance to us, why attack it?”

## Semantic change:

- c. 夷狄之民，何為來為？《谷梁傳·定公十年》 (*Gu Liang Zhuan*)  
 Yidi zhi min, he-wei lai wei?  
 Barbarian POS people, what-do come do  
 “They are the barbarians, what are they coming here for?”

As seen from (28a), *he* “why” is moved out of its object position and leaves *wei* “be” at the end of the sentence. In contrast, *wei* in (28b) is no longer a verb but used as an interrogative particle. However, these examples quoted from Jiang (2002) are not without problems. The issue is that there are two types of semantic-syntax interaction proposed by Peyraube and Li (2008), but Jiang’s (2002) examples are in fact a case of syntactic change driven by semantics only. Jiang (2012) refined his analysis and gave further evidence for why a seemingly syntactic driven phenomena may in fact be semantic in force: before *wei* changed from a verb to an interrogative particle in (28c), *yi* “use” must first have changed into a preposition meaning “by/for,” so that “*he-yi*” in (28a–b) could mean “what-for,” making the final verb *wei* redundant, semantically. Only then could *wei* be understood as a particle, not a verb, as shown in (29).

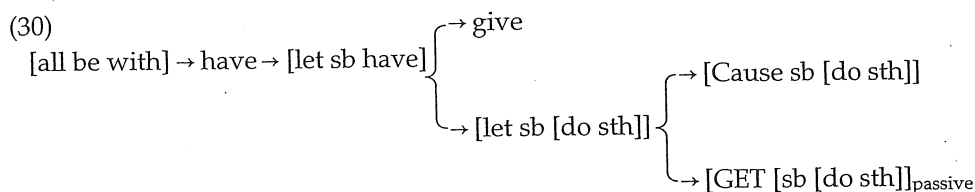
- (29) a. 君子質而已也，何以文為？  
 Junzi zhi eryi yi, [he yi] wen (wei)?  
 Gentlemen nature only particle, what-use sophisticated (do)  
 “A gentlemen is simply by his nature, why sophisticated?”
- b. 是社稷之臣也，何以伐為？  
 Shi sheji zhi chen ye, [he yi] fa (wei)?  
 it nation’s object particle, what-use attack (do)  
 “It is paying allegiance to us, why attack it?”

Given this refined analysis, Jiang (2012) pointed out that the process for *wei* to change from a verb to a particle could not take place until *yi* changed its meaning

from “use” to “by/for.” Thus, it is still a case of syntactic change driven by semantics, and therefore not quite the same as the two types of semantic–syntax interaction proposed by Peyraube and Li (2008).

Obviously, even if the detailed analysis can be refined further, the direction of research on the semantic–syntax interface will unquestionably be a new turn that advances the diachronic studies in many aspects. One important aspect of the interface study is given in Feng, Tsai, and Huang (2008) by coordinating paleographical, exegetic, and syntactic study to explore what appear to be unrelated, but in actuality are systematically related, phenomena.

First, it is possible that not only word meaning but also thematic information can be found and verified from the design of Archaic characters (i.e., the 構意 *Gouyi* “Intention of Graphic Design”). The unique paleographic evidence may enable us to uncover synthetic information encoded in paleographic systems. Although this method is new and being used tentatively, the example under study reveals interesting results. Namely, the Archaic word *yu* was written as 𠄎 with “four hands together,” which means “to be all together, to part-take” as attested by classical exegetic annotations. According to paleographic structure and exegetic evidence, Feng, Tsai, and Huang (2008) argue that the latter meaning apparently served as the base that the light verb morpheme \*s- (=CAUSE) applied to it, resulting in a “give” meaning, alongside causative structure, passivization, disposal structures, and applicative structures in the sense of Tsai (2007), as reported in Chappel, Peyraube, and Wu (2007).



Apparently, there are two tracks of development, depending on whether CAUSE or APPLICATIVE features are activated or not: if the CAUSE feature is activated, we have what northern languages have been observed so far and if, on the other hand, the APPLICATIVE feature is activated, then southern patterns are expected, a paradigm which nicely explains Hashimoto’s question and Min Zhang’s (2011) distinction, as seen above.

#### 4 Final remarks

In scientific research, it is very important and healthy to see not only achievements made, but also problems identified. This applies perfectly to the field of diachronic syntax in Chinese. Regarding all the syntactic changes recognized so far, some of the old questions unquestionably remain unsolved while new ones have arisen. For example, the development of PP is still a mystery.

As seen in Section 2.2.5 above, null light verbs in Archaic Chinese have been replaced by phonetically realized light verbs.<sup>22</sup> Among the phonetically realized light verbs, many are treated as prepositions in the traditional analysis. With this in mind, we are pursuing, in an alternative fashion, the unsolved problems of the prepositions in classical Chinese.

First, what is the syntactic status of these prepositions in late Archaic (or even Modern) Chinese? Are they light verbs as Feng (2009) suggested, co-verbs as Li and Thompson (1981) characterized, the so-called first position verbs as Chao (1968) suggested, or prepositions as generally assumed?

Second, from Archaic to Medieval Chinese, PPs have shifted their positions with respect to the main verb in the sentence. They basically occurred post-verbally in Archaic Chinese and, from Medieval Chinese onward, most locational and instrumental PPs could alternatively appear pre-verbally. Comparative PPs also behaved in the same way: [A [yü N]] is a classical form whereas [[bi N] A] is a modern one (Jiang and Cao 2005: 3). Then the following questions arise:

- (31) a. The timing problem: Why do most new prepositions appear during Han Dynasty? (He, 1984)  
 b. The position problem: Why were new prepositions born in the pre-verbal positions?<sup>23</sup>  
 c. The category problem: Why do new prepositions mostly (if not exclusively) come from verbs?

To date, no fully satisfactory answer has been given in the literature.

Another example of an unsolved problem is the verb+resultative construction. As seen above, there were both VRO and VOR forms, but no VRRO and VORR were tested. Why or why not? What are the syntactic constraints that prohibit the trisyllabic VRR from taking an object or the VO from having a disyllabic resultative complement? An even more serious problem is why the VRO and VOR emerged proximally at the same time in history (i.e., the Six Dynasties, AD 420–589). Why was there a parallel development of VRO with VOR? And finally, what is the reason for why the VOR forms disappeared after the Tang Dynasty (AD 618–917)?

None of the questions posed here and elsewhere in recent research have been solved by either functionalists or generativists. The work on diachronic Chinese syntax has succeeded in creating a lively field of study with new discoveries as well as well-posed questions. There are even bigger questions than those above, such as the five problems of change that Weinreich *et al.* (1968) recognized: actuation, constraints, transition, embedding, and evaluation. The sociolinguistic problems are actually well-received by generativists with a somewhat different formulation. For example, the constraints problem, with what changes are possible for a language in a given state, is understood in terms of the limits that Universal Grammar places on language variations. Thus, diachronic change, like synchronic variation, does not, under normal circumstances, undergo catastrophic



reorganizations. What we have seen from Chinese historical studies is that endogenous changes are processed diachronically through reanalysis and grammaticalization, but they were activated synchronically at a certain point in time within a specific community in history. Under this view, different grammars, both diachronic and synchronic, are limited to the different settings of a finite number of universal syntactic parameters. As a result, the limited changes call for reasons and theories formulated synchronically on the basis of available data, while the unlimited realizations of the visible exponent of functional features will motivate explorations on all possible changes diachronically, a fruitful dialectic between theoretical concerns and empirical findings.

## NOTES

- 1 See Peyraube (1996) for the periodization of Chinese language which the current chapter adopts, namely, Pre-Archaic Chinese (1400–1100 BC), Early Archaic Chinese (1000–600 BC); Late Archaic Chinese (500–200 BC); Pre-Medieval (100 BC–AD 100; the transition period); Early Medieval (AD 200–600) Late Medieval (AD 700–1200); Pre-Modern (AD 1250–1400); Modern (fifteenth to nineteenth century); and Contemporary (mid nineteenth to twentieth century).
- 2 Langacker (1977:59) defined reanalysis as a “change in the structure of an expression . . . that does not involve any . . . modification of its surface manifestation.” Different notions have been developed in the study of Chinese diachronic syntax, including the so-called “Overlap of structural layers (*cengci chongdie* 層次重疊)” (Mei 2004) which, however, can be seen as a sub-case of reanalysis.
- 3 The PSC is informally defined as “no two constituents are allowed after the main verb” (Huang 1984). It is important to note, though, that the PSC was originally designed so as to allow double object constructions.
- 4 為客治飯而自(治)藜藿。《淮南子·說林》 (taken from K. Mei 2003)  
Wei ke zhi fan er zi (zhi) lihuo (*Huai Nan Zi, Shuo Lini*)  
For guest cook rice and self (cook) potherb  
“(he) cooked rice for guests but potherb for himself.”
- 5 In Modern Chinese, the sentence below is ungrammatical.  
\*Ta xi.huan gou, wo mao.  
He like dog, I cat  
“he likes dog, I (like) cat.”
- 6 For example, *Niu yang xia lai* 羊牛下來 “sheep and cow down come” (sheep and cows came down) – from *The Book of Songs* 《詩經》 in Archaic Chinese.
- 7 Y. R. Chao, for example, asserted that: “The grammar of Chinese is practically the same, not only among the dialects, but even between modern speech and the classical language” (Chao 1976: 99).
- 8 Note that not all changes (some cases of loss of movement and the downward reanalysis in English verbs, for example) are instances of grammaticalization under this theory. See Roberts and Roussou (2003: 208).

- 9 Although analogy is still commonly used today and even advanced with digital algorithms (see Blevins J.P. and Blevins J. 2009), it is still "an inappropriate concept in the first place" (Chomsky 1986: 32), simply because one cannot equate a "statistical prediction" with physics.
- 10 Taken from *Lunheng, Fei Han* 《論衡·非韓》 (AD 100):  
 (太公) 空殺無辜之民  
 (Taigong) kong-sha wugu zhi min (Wang Chong Lunheng: fei han)  
 "Taigong killed innocent people without reason."
- 11 Taken from *Mengzi Zhangju* 孟子章句 written by Commentator Zhao Qi of Eastern Han.
- 12 He (1980) has also confirmed that "in Archaic Chinese the [V 之zhi N] was not understood as [V 其qi N] and the interpretation of zhi as qi is probably a reading of using their own grammars of later generations." See also Yin (1984).
- 13 Recall a point of similarity in Huang (1995) and Feng (2002) concerning the development of the resultative complement, as discussed in Section 2.2.1 above.
- 14 Actually, K. Mei had presented his idea informally since the middle 1980s in conferences, lectures, and formal discussions (see Yang 2010 and 2011 and references cited there).
- 15 The term *analyticity* and *syntheticity* (Schwegler 1990) were used as early as the 1930s in, for example, Zhang Shi-Lu's work (1939), but dates back at least to Sapir (1921).
- 16 Of course, prosody may be one of the reasons. Can prosody be the only or the ultimate reason? More research is definitely needed in this area.
- 17 The light-verb syntax captures an important traditional consensus (Li 1994) that "causativization is not a flexible usage of intransitives in classical Chinese; rather it is the essential property of intransitives" (He 1980, 1996).
- 18 The grammaticalization of the Late Archaic copular *shi* from a demonstrative pronoun to a linking verb may also be licensed by prosody, as commented by Peyraube and Wiebusch (1994) on Feng Li's (1993) work: "several arguments strongly supporting his hypothesis that there was indeed a phonological pause obligatory between subject and predicate."
- 19 The original *Gongyang Zhuan* 《公羊傳》 text is given below.  
 伐者為客，伐者為主  
 fa zhe wei ke, fa zhe wei zhu.  
 attack ZHE be aggressor, (be-)attack ZHE be host.  
 "The one who invades others' lands is the invader and the one whose lands are invited is the invaded."
- 20 For example, Jia Changchao 賈昌朝 (AD 997–1065) of the Song Dynasty has developed a term of *wei mou yue mou* 謂某曰某 "calling something by saying something > when name the thing (action), (you) pronounce such and such" in his *Qunjing Yinbian* 《群經音辨》 [Pronunciation Rectification in Classics]. It is used to distinguish verbs from their nominalized usages, such as: *Zheng* 爭, *dou ye* 鬥也, *ce-jing qie* 側莖切 "Zheng means "to fight" and is pronounced \*skreen;" *Wei dou yue zheng* 謂鬥曰爭, *ce-bing qie* 側迸切 "When naming the "fight", you pronounce \*skeens (*Qunjing Yinbian* Vol.6)
- 21 The original character text is: "《論語》二句而"我""吾"互用，《毛詩》一句而"卬""我"雜稱，蓋同一我義而語音輕重緩急不同，施之于文，若自口出。"（《說文解字注》"我"字注）"The first person pronoun *wo* and *wu* in Analects of Confucius (500 BC) was

used alternatively and also *ang* and *wo* in *The Book of Songs* (eleventh century BC–500 BC), they all have the same meaning as 'T' but the pronunciation of 'heavy-light' and 'fast-slow' are different, just like they are used in natural speech even if they appeared in writing."

- 22 The phonologically defective morphemes such as the causative \*-s will be the same as null light verbs that attract movement.
- 23 Of course, there were V+V→V+P processes, but they occurred either very early as in oracle bone script (1000 BC i.e., 往于 = (i) depart-go (ii) depart-to (see Shen 1992, Qiu 2010:435–437) or very late as in the Weijin Period (AD 500 i.e., 賜與 = (i) send+give; (ii) send+go (see Peyraube 1994).

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