

Serial Verb Construction in Mandarin Chinese: The interface of syntax and semantics

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This study aims at providing a unified account of the serial verb construction as a complex predicate in Mandarin Chinese. Adopting the assumption that complex predicates may be broadly viewed as syntactic complexity to present cognitively complex events (Givon, 2009), the proposal of this study may differ from most previous studies on the clear boundary of the Chinese serial verb construction. The analyses focus on the internal structures of the clauses to explain the development of the specific syntactic pattern, using the theoretical proposal of clause linkage devices postulated in Role and Reference Grammar (e.g., Foley & Van Valin 1984, Van Valin, 1993, 1997; Van Valin & LaPolla, 1997). The study proposes three general types of serial verb constructions in Chinese. The findings support the view that the diachronic change actually demonstrates a general tendency of the development of serial verb construction cross-linguistically (see Foley & Olson 1985, Givon 1975, 2003; Lord 1973). The predictions from the theoretical framework of Role and Reference Grammar offer a general explanation of human language on the analysis of the interface of semantics and syntax, leading to the understanding of synchronic syntactic grammar with a diachronic perspective. The findings may help clarify Chinese grammar for language learners for their understanding and usage of this syntactic pattern.

1. Introduction¹

This study presents a synchronic analysis of the serial verb construction in Mandarin Chinese (hereafter Chinese) to seek a unified account of this construction. The study examines the interface of syntax and semantics in this complex sentence structure, focusing on the internal structures of the complex predicates with an attempt to provide an explanation that may account for different syntactic patterns in this construction. The study applies the theoretical analysis of clause linkage postulated in Role and Reference Grammar (e.g., Foley & Van Valin 1984, 1985, Van Valin, 1981, 1986, 1993; Van Valin & LaPolla, 1997). The analysis is synchronic, but diachronic development also has been

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taken into consideration. The study proposes that, a. Chinese serial verb construction is a complex predicate construction with a fuzzy boundary; b. Some of the Chinese serial verb constructions have been developing from a complex clause into a simplex one; therefore the construction does not hold a single and/or consistent structure within. Finally, the diachronic change actually demonstrates a distinctive feature of the development of serial verb construction cross-linguistically (e.g., Foley & Olson 1985, Givon 1975, 2009; Lord 1973). Therefore, synchronic syntactic grammar should be analyzed with a diachronic perspective (e.g., Tao, 2005).

Although there has been a general consensus on the characteristics of the serial verb construction, previous studies disagree on what specific syntactic patterns should be included in this construction in Chinese (e.g., Baker, 1989; Bisang, 1995; Ding et al., 1979: 112-8; Givon, 2009; Li & Thompson, 1981; Noonan, 1985). It is hoped that the fuzzy boundary proposal of this study may help clarify this construction in Chinese grammar for language learners for their understanding and usage of this pattern.

2. Background information and data

2.1. Serial verb construction in Chinese

Serial verb construction, broadly defined, is a syntactic structure in which two or more verbs are juxtaposed to form a complex predicate to express a series of related actions within a single clause (e.g., Baker, 1989; Ding et al. 1979: 112-8; Givon, 2009; Li & Thompson, 1981; Noonan, 1985), with some general characteristics cross-linguistically: a. The verbs share the same grammatical subject; b. There are no connective markings to indicate the relationship of the verbs; c. The verbs are under the same grammatical categories, e.g., tense, aspect, and/or modality; and d. The verbs are in a fixed order with varied relationship based on the verb semantics.

The present study examines three types of syntactic patterns in the Chinese serial verb construction: Type I, the canonical pattern, Type II, the pivotal pattern, and Type III, the coverb pattern. Previous studies all agree on Type I serial verb construction because it is the canonical pattern that fits the general characteristics of this construction.

- (1) a Zuo²¹⁴ Xian⁵⁵sheng qu⁵¹ da²¹⁴ dian⁵¹hua⁵¹ jiao⁵¹ che⁵⁵ le. (Ding, p. 116)
 Zuo Mr. go make phone.call hire car CRS
 V₁ V₂ V₃

‘Mr. Zuo went to call for a taxi already (... went to make a phone call to hire a taxi).’

- b. Ta⁵⁵₁ tuo⁵⁵ le xie³⁵ zou²¹⁴ jin⁵¹ fang³⁵ qu⁵¹. (Ding, p. 114)
 3sg take-off PA shoe walk-enter house go
 V₁ V₁ V₃ V₄

‘He took off his shoes and went into the house.’

In example (1), the verbs present a simultaneous action (1a) or a consecutive action (1b). The sentence-final *le* in (1a) is shared by all the verbs in the clause. In (1b), the perceived main verbs are *tuo⁵⁵* (take off) and *zou²¹⁴* (walk), with *jin⁵¹* (enter) and

qu51 (go) as directional complements to the verb. These two complements are high-frequency verbs that often function as such cross-linguistically (e.g., Givon, 2009).

Concerning Types II and III serial verb construction, previous studies hold conflicting views. In Type II, the pivotal construction (or the ‘switch function’ serial verb construction, Aikhenvald, 2006: 14), the verbs do not share the same grammatical subject (example (2b)); however, some previous studies (e.g., Li & Thompson, 1981) have included this pattern in the Chinese serial verb construction whereas some other studies disagree. Ding et al. (1979: 118) claim that the serial verb construction is 连动式, *Liándòng Shì*, yet the pivotal pattern is a ‘conjoined pattern’ (兼语式, *Jiànyǔ Shì*), in which the object/undergoer of the first verb also acts as the actor of the second verb.

Ding et al further claim that Type I and II patterns may be identical in form and sometimes can only be differentiated by pronunciation. In example (2a-b), the sentences appear the same in writing. But with the change of tonal stress, (2a), with the second verb *qu51* (go) unstressed, presents a serial verb construction in which both verbs share the same grammatical subject. Example (2b), with *qu51* stressed, forms a pivotal construction: the pronoun *ta55* has a dual function of an undergoer and actor.

- (2) a. 我叫他去。 Wo214 jiao51 ta55 qu. (Ding et al, 1979:122)
 1sg call 3sg go
 I’m going to call/get him.
- b. 我叫他去。 Wo214 jiao51 ta55 qu51.
 1sg tell/allow 3sg go
 I told/allowed him to go.

Contrary to Li & Thompson (1981), Ding, et al (1979: 118-122) and Aikhenvald (2006: 55) propose that the coverb pattern (Type III serial verb construction) belongs to the Chinese serial verb construction because it shares similar syntactic features with Type I serial verb construction (also see, Bisang, 1995). Aikhenvald (2006: 55) proposes that there are two types of serial verb constructions, the symmetrical (prototypical or canonical, such as the Type I construction in this study) and the asymmetrical pattern with a ‘minor’ verb from a closed class (i.e., coverbs) that tend to grammaticalize into markers of direction, etc. Coverbs exist ‘on the fuzzy ground between verbs and prepositions (Van Valin, 1993: 201). They are used mainly to introduce oblique arguments, although sometimes the status of the arguments is questionable (e.g., Zhu, 2000). They form a class of lexical items which can be negated like verbs (e.g., Chao, 1968; Li & Thompson, 1974; Ross, 1981), and are considered prepositions by some (e.g., Li & Thompson, 1974, 1981). In (3), the coverb *cong35*: follow/obey, is rarely used as a full verb in modern Chinese.

- (3) Cong35 nei51ge Shi35beir Hu35tong guo51qu. (Beijing97:29)
 from that Cl S Lane pass go
 Pass through (from) the Shibeir Lane.

In addition to the controversial views on Types II and III serial verb construction, some studies propose an even broader domain in the Chinese serial verb construction to include, for instance, the resultative verb compound (4a) (e.g., Aikhenvald & Dixon,

2006; Bisang, 1995; Hansell, 1993), the descriptive clauses (4b) (e.g., Li & Thompson, 1981:611), and the subordinating clause (governing verb, Bisang, 1985: 148) (4c).

- (4) a. Wo214 chi55bao214 le.
 1sg eat-full CRS
 I am full (from eating).
- b. Ta55 yang214 le yi51zhi55 xiao214gou214 wo214 xiang214 mai214.
 3sg raise. PA one Cl little dog 1sg want buy
 He has/raises a little dog, (and) I want to buy (it).
- c. Wo214 kong214pa51 ta55 jin55tian55 bu51 hui35jia55.
 1sg fear 3sg today Neg. go.back home
 I fear that s/he won't go back home today.

The present study does not consider these patterns as part of the serial verb construction, for reasons discussed in the next section.

Section 2.2 introduces clause linkage as proposed in Role and Reference Grammar. Section 3 examines the three types of the Chinese serial verb construction to propose a unified account of this construction. Section 4 concludes the study with some specific discussion of diachronic changes that impact the Chinese serial verb construction.

2.2. Role and Reference Grammar (RRG)

Role and Reference Grammar offers a semantic analysis of language. The theory 'takes language to be a system of communicative social action.' This approach believes that 'grammatical structure can only be understood with reference to its semantic and communicative functions.' The theory 'is concerned not only with relations of co-occurrence and combination in strictly formal terms but also with semantic and pragmatic co-occurrence and combinatory relations (Van Valin, 1993, Van Valin & LaPolla, 1997: 13).'

Based on cross-linguistic data on general syntactic patterns, RRG proposes that a complex sentence contains layered structures, from the outer to the inner: the sentence, the clause/peripheral, the core and the nuclear junctures. The core juncture may contain two nuclei, each with its own arguments and/or a shared argument, forming a nexus. Junctures are usually marked with the scope of different operators, which are morphemes that mark tense, aspect, modality, negation, etc. of the predicate verbs².

The peripheral layer operator includes tense or question particles that concern the narrative event with reference to the speech event. It locates the time of the reported event with respect to the time of the speech event, grounding the reported event in the real world with temporal orientation of the present act of speaking (Foley & Van Valin,

² The *operator* is mainly a type of auxiliary verb or grammatical particle that is used in different linguistic analysis. Hopper (1999: 104-5) takes the first element of a string of auxiliaries as the operator that marks tense in English. Givón (2009) proposes that frequently used verbs tend to become grammaticalized and de-semanticized into operators on other predicates.

1984). In example (5) below, the clause contains two cores in a peripheral juncture, sharing the relative tense *le* (see footnote 3) and the question particle *ma*.

- (5) D: ge33de guo55li zha35 le ma?
 Place to wok in fry CRS Q
 Did (you) place (it) into the pot to fry yet?

Modality is a core layer operator expressing the variable of actuality of the event, with its scope over both the nucleus and its arguments (actor and undergoer, Foley & Van Valin, 1985:216). In Chinese modality includes *dei*₂₁₄: have to, *yao*₅₁: desire to, *ying*_{55gai}₅₅: should, etc. The core juncture is illustrated below.

- (6) a. Wo₂₁₄ yao₅₁/*dei*₂₁₄/*ying*_{55gai}₅₅ hui₃₅jia₅₅ zuo₅₁fan₅₁ qu le.
 1sg want / have to / should return home cook meal go CRS
 I want / have to / should go home to Cook now.

Aspects are the most common nucleus operator because it is concerned with the structure of the narrated event to express the temporal structure of the event, but not the arguments (actor/undergoer), e.g., complete and of no continuing relevance - perfective / non-durative aspect, etc, as exemplified below. Aspectual markers include: verb-*le*, Verb-*zhe*, Verb-*de*, etc. depending on specific semantic features of the verbs.

- (7) Ta₅₅ lao₂₁₄ kan₅₁*zhe* nei₅₁ gou₂₁₄ fen₅₅xin. (Beijing 97)
 3sg always look-at-Dur that dog divide heart/attention
 He always stared at the (toy) dog to go off on a tangent.

The canonical serial verb construction, as RRG proposes, is a co-subordinate construction with the series of verbs co-depending on each other. It contains at least two+ core junctures to form a nexus, each containing a nuclear juncture with the verb being the nuclear and its arguments as the complements to present a series of actions or events.

Co-subordination is exemplified with two core junctures sharing at least one semantic operator at the clause level, such as a tense operator. At the core and nuclear junctures the operators may include negation particles, aspectual particles, modalities, and so forth. It is important to point out that although the requirement seems arbitrary; they are functional in nature because they reflect some general linguistic tendency where certain verbs may be modified at which syntactic levels (e.g., Van Valin, 1993).

Specific operators and clause structures are exemplified in the next section.

2.3. Data

The data used in this study mainly come from two sources: citations from Ding et al, (1979), mainly extracted from influential Chinese authors (thus from written texts); and data from the author's own collection of natural conversations (referenced by the place and time of the recording). Due to the nature of the analysis, different operators are

added to some examples; therefore, citations are often altered. For this reason, some examples do not have their original source indicated.

Tones are indicated with the numerical value of 1-5, following Chao (1968). This practice has to be used to document certain tonal changes, including tone sandhi changes, from data that come from transcripts of natural conversations.

3. Serial Verb Constructions

This section presents the analyses of all three types of construction by using the means of clause linkage from Role and Reference Grammar. The goal of the analyses, again, is to justify the proposal of the three as the Chinese serial verb construction.

3.1. Operator scope and Chinese serial verb construction

Role and Reference Grammar postulates that tense (at the peripheral layer), modality (at the core layer) and aspect (at the nucleus) markers may indicate clause formation of various types. The study predicts that on the outer juncture, the three types share the same illocutionary force operator, which includes the question marker *ma*, the aspectual or relative tense markers *le*³ and its negative particle *mei35(you)*, and the future/intension marker *hui51*.

Furthermore, the series of verbs in the three types share one core layer operator, such as the modality marker, indicating that this Chinese construction is in the core juncture. The core layer operator in Chinese include: *yao51*: *want, intend, plan to*, a modality marker. This analysis differs from some previous claims (e.g., Bisang, 1995) which assume that tense, aspect and modality (TAM) operate similarly.

Finally, the analysis shows that at the nucleus layer the three patterns show some differences.

We first examine the descriptive clause and the governing pattern (Li & Thompson 1981: 611; Bisang, 1985: 148) to argue that they should not be considered sub-types of the Chinese serial verb construction.

³ Li, Thompson and Thompson (1982) take the sentence final *le* to be a perfect aspect marker to indicate a currently relevant state (CRS). They maintain that *le* "claims that a state of affairs has special current relevance with respect to some particular Reference Time"(1981:22). Thus, on their analysis, *le* expresses a temporal relationship between two states of affairs, and accordingly it has a fundamentally deictic meaning. It therefore meets the criteria proposed in Jakobson (1957) for a tense rather than an aspect category. (See also Friedrich 1985) It is a *relative* rather than an absolute tense category, because the reference time need not be the time of the speech act. Consequently, sentence final *le* will be considered to be a relative tense marker in this discussion. It will be seen that its distribution in complex sentences is precisely what RRG predicts the distribution of such a tense marker to be, and this distribution is very different from that of the perfective aspect marker *le*. It must be noted, however, that to say that sentence-final *le* is a tense marker is not to claim that it is solely a grammaticalized tense marker. It is clearly very complex semantically, with relative tense being one of its major meanings (e.g., Chan, 1980). Following the RRG theory of clausal operators, if an element expresses more than one operator, e.g. a combination of tense and aspect, then its scope relations and distribution in complex sentences will be those of the outermost operator that it expresses; in the case of an element expressing tense and aspect together, for example, it will pattern with the 'pure' tense markers rather than with the 'pure' aspect markers.

Tao: SERIAL VERB CONSTRUCTION

- (8) a. Ta55 yang214 le yi51zhi55 xiao214gou214 ni214 xiang214 mai214 ma?
 3sg raise. PA one Cl little dog 2sg want buy Q
 He has/raises a little dog. Do you want to buy (it)?
- b. Ni214 kong214pa51 ta55 jin55tian55 bu51 hui35jia55 ma?
 2sg fear 3sg today Neg. return home Q
 Do you fear that s/he won't go back home today?

In example (8a), the scope of the peripheral operator (the question particle *ma*) only covers the second juncture (intension of buying the dog). It does not question someone owning the dog. In (8b), the operator only covers the main clause predicate, but not the subordinate clause. The fact indicates that these patterns differ from the canonical serial verb construction – the series of verbs in them are not ‘juxtaposed’ to form a single predicate. Therefore, these two patterns are not considered as serial verb construction.

3.2. Peripheral Operator

Contrary to examples in (8a-b), the peripheral layer operator functions at the outer layer of the three types of serial verb construction to cover the entire complex clause. Following are examples of the three types sharing the peripheral outer-layer operators, the question particle *ma* (9-11), a relative future (tense) marker *hui51* or the relative tense marker *le/mei35* (12-14).

- (9) a. Ge33de guo55li zha35 le ma? (Type I)
 Place to wok in fry CRS Q
 Did (you) place (it) into the pot to fry yet?
- b. ?Ge33de guo55li ma? Zha35 le ma?
 Should (I) put (it) in the pot? Did (you) fry it?
- (10) a. Ni214 jiao55 ta55 shuo55 Ying55wen35 le ma? (Type II)
 2sg teach 3sg speak English CRS Q
 Did you teach him to speak English?
- b. ?Ni214 jiao55 ta55 le ma? shuo55 Ying55wen35 le ma?
 Did you teach him? Do you / does he speak English?
- (11) a. Ta55 dui51 ni214 shuo55 shi35hua51 le ma? (Type III)
 3sg to 2sg speak true.words CRS Q
 Did he tell you the truth?
- b. *Ta55 dui51 ni214 le ma? ?shuo55 shi35hua51 le ma?
 *He toward you? ?Did (he/you) speak the truth?
- (12) a. Ta33 hui51 hui35 niang35jia guo51jie35 qu51 de. (Type I)
 3sg Fut return mother home spend festival go De
 She will go to her mother's home to spend the holiday.

Tao: SERIAL VERB CONSTRUCTION

- b. ?Ta33 *hui51* *hui35* *niang35jia*. *Hui51* *guo51jie35* *qu51* *de*.
 ?She will return to her mother's house. (She) will go there to spend the holidays.
- (13) a. Ta55 *po35po* *mei35* *jiao51* *ta55* *hui35qu51*. (Type II)
 3sg mother-in-law Neg:P let/allow 3sg return go
 Her mother-in-law didn't tell (allow) her to go back.
- b. ?Ta55 *po35po* *mei35* *jiao51* *ta55*. Ta55 *mei35* *hui35qu51*.
 Her mother-in-law didn't call her. She didn't go back.
- (14) a. Ta55 *hui51* *ba214* *qian35* *jiao55* *gei214* *ni214* *de*. (Type III)
 3sg Fut BA money hand.in give 2sg De
 He will hand in the money to you.
- b. *Ta55 *hui51* *ba214* *qian35*. *Hui51* *jiao55* *gei214* *wo214* *de*.
 3sg BA money hand.in give 1sg Le
 He will get money. He will hand the money to me.

Examples (9a)-(14a) demonstrate that the three types of serial verb construction share the same operators on the peripheral layer. Whereas examples (9b)-(14b) indicates the peripheral layer operator cannot function on individual verbs in the three types of serial verb construction. With types I and II, the peripheral layer operators break the complex clauses into separate simple clauses. But with Type III the peripheral operators cannot function alone with the coverbs. Similar results have been found when using the peripheral operator *le* and its negative counterpart *mei35(you)*. The findings indicate that the three types of Chinese serial verb construction form a single complex predicate which can only receive modifications from one peripheral layer operator.

3.3. Core layer operator

Modality is the variable of actuality of the event, a core operator with its scope over both the nucleus and its arguments (actor and undergoer) (Foley & Van Valin, 1985:216). Chinese serial verb construction shares one core layer operator as well to form core junctures. The operator used here is *yao51*: *want*, *intend*, *plan to*, a modality marker.

- (15) a. Ta55 *yao51* *hui35jia55* *kan51shu55*. (Type I)
 3sg want return home read book
 He wants to go home to read (a book).
- b. Ta *hui35jia55* *yi214hou51* *yao51* *kan51shu55*.
 3sg return home after want read book
 After he gets home, he wants to read a book.
- c. * Ta *yao51* *hui35jia55* *yao51* *kan51shu55*.
 3sg want return home want read book
 *He wants to go home to want to read.

Example (15a) shows that the core operator has a scope over the entire core juncture so that the semantic interpretation is that the verbs *hui35jia55*: *return home* and

Tao: SERIAL VERB CONSTRUCTION

kan51shu55: read (a book) are the intension of the subject's (*ta55: s/he*). When a core operator occurs on the second verb in (15b), the sentence becomes questionable unless the time adverb *yi214hou51: after* is placed after the first verb phrase to separate the single clause into two individual clauses. This practice means that when the core operator modifies only the second verb, type I serial verb construction no longer exists and it changes into a complex sentence. Example (15c) shows that core operators are not allowed to go with both verbs (nuclei) in type I serial verb construction.

Next we examine Type II serial verb construction.

- (16) a. Ta *yao51* qing214 ni214 chi55fan51. (Type II)
 3sg want invite 2sg eat meal
 He plans to invite you to dinner.
- b. * Ta qing214 ni214 *yao51* chi55fan51.
 3sg invite 2sg want eat meal
 *'He asks (invites) you to want to eat.
- c. * Ta *yao51* qing214 ni214 *yao51* chi55fan51.
 3sg want invite 2ag want eat meal
 *He wants to invite you to want to eat.
- (17) a. Ta55 shi214 wo214 *xiang214* / hui35 jia55
 3sg make 1sg want return home
 He made me want to go home.
- b. Ta55 *xiang214* / *Yao51* rang51 /*shi214 wo214 hui35 jia55
 He wants to let/allow me to go home. But: *want to cause me to go home.
- c. *Ta55 *xiang214* / *yao51* rang51 / shi214 wo214 *xiang214* hui35 jia55
 He wants to let/allow/cause me to want to go home.

In (16a), the core operator can cover the first core of the core juncture, similar to the Type I serial verb construction. But different from Type I, the semantic scope of the operator is over the first core only. The rest of the construction (the 'pivot' plus the second verb) falls under the scope of the first verb, hence only indirectly covered by the core operator. The unacceptable cases in (16b-c) indicate semantic limitations – the implausibility of inviting or making someone to want to do something.

If we take another modality operator *xiang214*, as in (17a), we can see that this operator goes with either the second verb (17a) or the first verb *rang51* (17b), but not both (17c), indicating that the first or second core, but not both at the same time, is able to have its own core operator, unlike Type I serial verb construction. The unacceptable verb *shi214* (17b) is due to the semantic constraints of this verb.

This analysis has two implications: first, the choice of operators at each juncture is primarily determined by verb semantics; second, Type II serial verb construction is similar with Type I in allowing only one core operator in the predicate; but different from Type I, a core operator may modify either verbs.

Tao: SERIAL VERB CONSTRUCTION

We now examine Type III, the coverb construction. In a canonical coverb pattern the verbs share the same grammatical subject. As demonstrated below, coverbs do not form a unified class because some have developed into prepositions yet some still retain their full verb status (e.g., Givon, 2009; Van Valin, 1993). Some studies consider all Chinese coverbs to be prepositions (e.g., Li & Thompson, 1974), in which case this pattern has developed into a simplex one with only one main verb. Due to high variability of the coverbs, the core operators work differently in this pattern.

- (18) a. Ta55 *yao51* gei214 ni214 xie214 xin51. (Type III)
 3sg want to 2sg write letter
 He wants (plans) to write to you.
- b. *Ta55 gei214 ni214 *yao51* xie214 xin51.
 3sg to 2sg want write letter
 *He to you wants to write.
- c. *Ta55 *yao51* gei214 ni214 *yao51* xie214 xin51.
 3sg want to 2sg want write letter
 *He wants to you want to write.
- (19) a. Ta55 *yao51* zai51 shu55dian51 mai214 hen214duo55 shu55.
 3sg want at bookstore buy very many book
 He plans to buy many books from the bookstore.'
- b. Ta55 zai51 shu55dian51 *yao51* mai214 hen214duo55 shu55.
 3sg at bookstore want buy very many book
 He wants to buy many books in the bookstore.'
- c. *Ta55 *yao51* zai51 shu55dian51 *yao51* mai214 hen214duo55 shu55.
 3sg want at bookstore want buy very many book.
 *He wants to buy many books wants in the bookstore.'
- (20) a. Fang35guan214 Ju35 *yao51* gei214 ta55 mai51 le.
 Housing-manage Bureau want to-his-loss 3sg sell CRS
 The Housing Management Bureau plans/wants to sell (his house) on him.
- b. *Fang35guan214 Ju35 gei214 ta55 *yao51* mai51 le.
 *The Housing Management Bureau on him want/plan to sell (his house).
- c. *Fang35guan214 Ju35 *yao51* gei214 ta55 *yao51* mai51 le.
 *The Housing Management Bureau want on him want/plan to sell (his house).

If we compare the (b) sentences in (18) and (20), we realize that type III serial verb construction does not hold a consistent case. Some of the coverbs do permit the core layer operator *yao51*: *want*, *intend to* function at the middle of the core juncture between two cores (19b), whereas others do not allow it (18b), (20b). This phenomenon further confirms that the coverb pattern is not formed with two full verbs consistently. Diachronically, Chinese coverbs were full verbs which have developed into something else (e.g., Chao, 1968, Li & Thompson, 1974). Most of these coverbs have still retained

their verbal status and can still function as full verbs if used alone. But when they are used as the first verb in a serial verb construction, their status becomes questionable (e.g., Zhu, 2000). This issue is discussed later in this section.

The unacceptable (c) sentences in (18)-(20) demonstrate that a core layer operator is not allowed to function with each individual core in Type III, the coverb pattern. It can only modify the entire core juncture, just like Types I and II patterns.

Further tests on the three types of Chinese serial verb construction have been carried out using additional core layer operators, including, for instance, the manner adverbs *gao55xing51 de: happily* and *sheng55qi51 de: angrily*. The results turned out to be similar with the modality operator *yao51*. The phenomenon indicates that the Chinese serial verb construction in general is formed with two (or more) cores (nucleus plus core arguments) in a core juncture.

3.4. Nuclear Operators

Having determined the Chinese serial verb construction forms a core juncture under the same one peripheral layer operator on the outer layer (the clause level) and/or one core layer operator before the first verb (in most cases), we now turn to nuclear operators and their functions in the core juncture. The results now show some internal differences among the three types of serial verb construction.

Aspects are the most common nucleus operator because it is concerned with the structure of the narrated event to express the temporal structure of the event, but *not* the arguments (actor/undergoer) (Foley & Van Valin, Jr. 1984).

The nuclear operators are mainly aspect markers such as *zhe: durative*, *le: perfective* and *de: state* markers. We have noticed by now that in our analysis, semantic requirements should be fulfilled before syntactic rules can apply. This is not surprising since what we are dealing with are semantic operators. All operators bear their own semantic value and most of them have more than one lexical function. For instance, *zhao55/zhe* can be used as a full verb meaning *touch a spot*, as in *zhao55di: touch ground, touch down*; *liao214/le* means *finish* when used as a full verb.

We first look at Type I serial verb construction: The canonical pattern.

- (21) a. Ni214 shi51 ke51, zuo51 zhe he55 shui214 ba.
 2sg be guest sit Dur drink water Int
 You are the guest, please keep seated to enjoy some water.
- b. *Ni214 shi51 ke51, zuo51 xia51 he55 zhe shui214 ba.
 *You are the guest. Sit down to be enjoying some water.
- c. * Ni214 shi51 ke51, zuo51 zhe he55 zhe shui214 ba.
 *You are the guest. Keep seated and be enjoying some water.
- d. Ni214 shi51 ke51, zuo51 zhe he55 le shui214 zai51 shuo55.
 You are the guest. Keep seated to finish drinking the water, then (we) discuss it.

Tao: SERIAL VERB CONSTRUCTION

- (22) a. Ta55 tuo55 le xie35 zou214jin51 qu51.
 2sg take off PF shoe walk enter go
 He took off his shoes and walked in.
- b. Ta55 tuo55xia xie35 zou214 zhe55 / le jin51qu51.
 3sg take down shoe walk-Dur / PF enter go
 He took off his shoes and walked (with either zhe or le) in.
- c. Ta55 tuo55 le xie35 zou214 le jin51qu51.
 3sg take off PF shoe walk PF enter go
 He took off his shoes and walked in.
- (23) a. Ta55 zhi55 zhe / le mao35yi55 kan51shu55
 3sg knit Dur / PF sweater read book
 She is knitting while reading (with zhe).
 She finishes knitting, then reads a book (with le).
- b. Ta55 zhi55 mao35yi55 kan51 zhe / le shu55
 3sg knit sweater read Dur / PF book
 When she knits she (has to) look at a book (with zhe).
 As for knitting, she has read a book (about it) (with le).
- c. Ta55 zhi55 *zhe / le mao35yi55 kan51 *zhe / le shu55
 3sg knit Dur / PF sweater read Dur / PF book
 She is knitting and reading (with zhe).
 She finished both knitting and reading (using le).

Of the three examples of type I serial verb construction, (21) seems the most rigid one in that it does not allow *le* or *de* to occur at all. The fact maybe caused by the closely juxtaposed actions presented in an imperative mood – sitting and drinking should happen simultaneously. The type of request cannot allow perfective modifier. Note that in (21d), the two verbs may take both *zhe* and *le*, indicating that with the right semantic conditions, the verbs in Type I serial verb construction may share two nuclear operators, as RRG predicts in this peripheral layer juncture.

Example (22) presents a sequential action of the verbs, allowing the perfective *le* to occur after either or both verbs. But for semantic reasons the durative *zhe* cannot be utilized here. When *zhe* is used with the second verb in (22b), it has turned into another marker describing the ways in which something is done. Here *zou214zhe*: *walk* implies a manner of motion: *to walk on foot*, as opposed to *by bus*, etc., and it no longer functions as the durative operator.

In (23) *zhe* and *le* can both occur but with different semantic interpretations, as shown in the English translations. *Zhe* expresses simultaneous actions whereas *le* brings with it consecutive actions. While *le* is able to occur with both verbs in (23c), *zhe* is not permitted to do so. This is because when two actions are going on simultaneously, *zhe* operates on one of the actions to provide an accompanying action or a background to the other one. In Chinese, two simultaneous actions may be presented using a pair of

Tao: SERIAL VERB CONSTRUCTION

correlative markers such as *yi51bian55 Verb...yi51bian Verb...*. But the pattern no longer constitutes a serial verb construction.

One may see that the predictions from RRG may work theoretically -- given enough semantic allowance, nuclear operators may occur freely in type I serial verb construction. In (21d), (22) and (23), *le* occurs in all the positions it should be able to function theoretically.

Now let's look at Type II serial verb construction, the pivotal pattern. This pattern differs from Type I in that the two verbs do not share the same grammatical subject.

- (24) a. Feng55 chui55 zhe xue214hua55 man214tian55 fei55.
 Wind blow Adv/Dur snow flake full-sky fly
 The wind is blowing the snowflakes (making them) fly in the air.
- b. ...Te51bie35 shi51 rang51 gu51xiang55 de feng55 chui55 zhe *de
 Especially be let/allow hometown-Poss wind blow-Dur
 (It's such a nice feeling) to let the hometown wind to blow (at me)
- c. ?Feng55 chui55 zhe xue214hua55 man214 tian55 fei55 zhe / *de.
 The wind is blowing the snowflakes (making them) flying in the air.
- (25) a. Cheng35ji51 hao214 shi214de ta55 bei51 ji214suo214 da51xue35lu51qu214le.
 Grade good cause/make-de 3sg by several-Cl big-school admit CRS
 Good grades is the cause for him to be admitted by several universities.
- b. Xi55wang51 shi214 de ta55 kua51huo35 *de.
 Hope makes him happy / *so happy that.
- c. *Xi55wang51 shi51 zhe / de ta55 kuai51huo35 de.
 *'Hope is making him so happy that (*zhe-de*).
 *'Hope (is so good that it) makes him so happy that (*de-de*).

The semantic reasons allowing *de* or *zhe* to occur after the first verb in pivotal construction is obvious from examples (24) and (25). When the second verb describes the state of event caused by the first verb, *de* is acceptable after the first verb ((24a) and (25a,b)), or after the second verb (24b). The particle *de* cannot function with the second verb at all (24b, c; 25b, c). In (25b-c), the occurrence of *de* at the end of the sentence results in ungrammaticality. This is due to semantic considerations also because it is an obvious case that *de* requires some further action to operate on the verb it follows, and therefore, it may never appear at the end of a sentence.

Examples (26) and (27) demonstrate a contrastive case with the verb *jiao51*: *call/tell/* and *allow* and the verb *rang51*: *allow*.

- (26) Ta55 po35po jiao51 ta55 hui35jia55 qu51. (Ding et al., 1979: 119)
 3sg mother-In-law tell 3sg return home go
 Her mother-In-law told her to go back (return) home.
- a. Ta55 po35po jiao51 le ta55 hui35jia55 qu51.
 Her mother-In-law has told (called) her to go home now.

Tao: SERIAL VERB CONSTRUCTION

- b. * Ta55 po35po jiao51 ta55 hui35 le jia55 qu51.
 *Her mother-in-law tells her to have gone home.
- c. * Ta55 po35po jiao51 le ta55 hui35 jia55 qu51.
 *Her mother-in-law *allowed* her to have gone home (c.f., 26a).
- d. Ta55 po35po jiao51 *zhe* ta55 hui35jia55 qu51 le.
 Her mother-In-law went home while calling her.
- (27) Ta55 po35po rang51 ta55 hui35 jia55 le.
 3sg mother-In-law allow 3sg return home CRS
 Now her mother-In-law allows her to go home (didn't allow her to do so before).
- a. *Ta55 po35po rang51 le ta55 hui35 jia55 le.
 Her mother-in-law has allowed her to go home now.'
- b. *Ta55 po35po rang51 le ta55 hui35 le jia55.
 *Her mother-in-law allowed her to have gone home.'
- c. ?Ta55 po35po rang51 / jiao51 ta55 hui35 le jia55.
 Her mother-in-law allowed/let her to go home (to have returned home).

In (26a), when *jiao51* carries the meaning *tell/call*, *le* is permitted to occur after this verb, yet when *jiao51* functions as *allow* (26c) and *rang51* in (27), it cannot take *le* because the lexical items have turned into a 'secondary verb (Ding et al, 1979)', implying permission for someone to do something. These verbs have now further developed into maybe derivational morphemes to pair with full verbs with the meaning of 'with permission to+Verb'. With *le/zhe*, *rang51* turns into a full verb means to *yield* or *give in*.

In summary, as RRG predicts, nuclear operators can occur independently with each unit in the core juncture (e.g., (24a,b)) in type II serial verb construction, given the right semantic constraints. But some of the first verbs in this pattern have developed into 'secondary verbs' that have lost their full verbal status, similar to coverbs.

Type III serial verb construction involve coverbs, the 'secondary verbs' that behave differently from full verbs (e.g., Ding et al., 1979; Van Valin, 1993; Wang, 1985; Aikhenvald, 2006). Coverbs have developed from full verbs historically (e.g., Chao, 1968). They often provide adverbial-like information to the main verbs, such as location, direction, means of conveyance, etc, forming a close semantic relationship with the core, the predicate verb. In this regard coverbs offer something other than verbs, similar to those of prepositions in English. The operators, as RRG suggests, provide both semantic and syntactic means to test the functions of coverbs, with nuclear operators *de*: *adverb of state*, *zhe*: *durative*, and verb-final *le/mei35* (*negative*): *perfective particles*.

- (28) a. Zai51 nar51 *mei35* de35dao da35an51.
 From there Neg obtain-arrive answer
 (They) didn't obtain any answer from there.
- b. *Cong35 nar51 *zhe / de / le* de35dao da35an51.
 *(They) obtained the answer from-ing there.
- c. Cong35 nar51 de35dao le da35an51.
 From there obtain-arrive PF answer
 (They) obtained the answer from there.

Tao: SERIAL VERB CONSTRUCTION

- (29) a. Ta55 dui51 wo214 *mei35* shuo55 shi35hua51.
 3sg to 1sg Neg. speak true word
 He did not tell me the truth (but may have done so to others).
 Compare: Ta55 dui51 wo214 *hui51* shuo55 shi35hua51 de.
 He will tell me the truth (=He, to me, will tell the truth).
- b. Ta55 dui51*zhe* wo214 shuo55 *le* shi35hua51.
 Facing me, he told the truth.
- c. Ta55 dui51 wo214 shuo55 *le* shi35hua51.
 He told the truth to me.
- d. Zui214li214 dui51*zhe* zi51ji214 chang51*zhe* qing35ge55.
 Mouth-in to-Dur self sing-Dur love song
 In (his/her) mouth (s/he) is singing a love song to him/herself.
- (30) a. Ta55 gen55 wo214 hui35 *le* jia55.
 3sg with 1sg return-Perf home
 He and I went home. (or: he went home with me)
- b. ?Ta55 gen55 wo214 *mei35* hui35 jia55.
 3sg with 1sg Neg. return home
 ?He with me did not go home. He and I did not go home.
- c. Ta55 gen55 wo214 *mei35* que51ding51 guan55xi.
 3sg with 1sg Neg confirm relationship
 He and I did not (have not) confirm(ed) our relationship (official engagement).
- d. Ta55 gen55 *zhe* wo214 hui35 *le* jia55.
 Following me he went home (=he followed me and went home)
- e. Gen55*zhe* gan214jue35 zou214
 Follow-Dur feeling walk
 Follow (your) heart.
- (31) a. Ta55 gei214 Zhang55 Xiao51qin35 dang55 *le* mi51shu.
 3sg to Z X work-as-Perf secretary
 He served as a secretary to Zhang Xiaoqin.
- b. ?Ta55 ... *gei214* Zhang55 Xiao51qin35 *mei35* dang55 mi51shu.
 ?He to Zhang Xiaoqin did not work as a secretary.
- c.* Ta55 *gei214 le / de / zhe* Zhang55 Xiao51qin35 dang55 mi51shu.
 *He serves as a secretary to-ed (le) / to so much (de) / to-ing (zhe) Zhang.

All the (a) and (c) sentences in (28)-(30), plus (29b) and (31a) are acceptable to a various degree with *mei35* and *le*, the negative and positive perfective aspect particles, allowing the core operator to function on the second verb. But the operators cannot function on the coverbs in examples (28b), (30b) and (31b). To the contrary, (29b), (29d) and (30d-e) allow the durative particle *zhe* to operate on the coverb. In (30d) the verb *gen55*: *follow* has been turned into a full verb that can take a durative aspect. But (30e)

exhibits an idiomatic expression in which *gen55zhe* is a preposition. The same contrast can be seen in (29b, *dui51zhe: facing*) and (29d, *dui51zhe: to*).

Coverbs have not developed into a unified class of lexical items: some may have not been completely grammaticalized (e.g., Chao, 1968; Ding et al., 1979; Givon, 2009; Van Valin, 1993)) with individual differences along the developmental stages. Examples (28) through (31) present some variability among coverbs, but they all share a common syntactic feature in allowing the perfective particle to operate on the second verbs.

Some coverbs still have retained some vestigial verbal properties, e.g., taking *zhe* or *le*. But since these coverbs are not full verbs any more (e.g., Ding et al., 1981; Wang, 1985), *zhe* and *le*, when used with those coverbs, have also lost part of their syntactic functions as durative or perfective markers (Li and Thompson, 1981). *Le* is used with *chu35: minus* and *wei51: for* to form fixed expressions or compound words *chu35le: apart from, except, besides* and *wei51le: for the sake of* (Chao, 1968). *Zhe* is more productive. ‘The list of coverbs which can take *zhe* must be learned (Li and Thompson, 1974, 1981).’ (see Chao 1968:763; Li and Thompson 1974:261, for detailed discussions of the use of *zhe* with coverbs).

On the other hand, in some cases *zhe* still keeps its durative feature to cause the coverbs to ‘compromise’ e.g., the pairs *an51* and *an51zhe: according to*, *ai55* and *ai55zhe: against*, and *yan35* and *yan35zhe: along* mean the same; whereas *dui51: to* and *dui51zhe: to, towards or facing*, express somehow different prepositional functions with the former meaning merely *to* or *toward*, and the latter meaning *to face toward* or *facing*. In some other cases, *zhe* is able to form verbs, as in example (30d), in which the coverb *gen: with* plus *zhe* becomes a full verb meaning *to follow*. Even the word *ba214*, which has been considered a fully grammaticalized particle to mark some highly affected direct object, may go with *zhe* to form a verb, e.g., *ba214zhe: hold onto / occupy with persistence*. The narrowed verbal meaning of *ba214*⁴ is still presented in it.

The unacceptable sentences (28b) and (31c) suggest that some coverbs have developed into prepositions and so should not be regarded as nuclei. To place nuclear operators (e.g., *zhe, le, de*) with these coverbs causes ungrammaticality. The predicate in these clauses, therefore, is a simplex one.

This phenomenon can also be found with Type II pattern, in which the undergoer of the passive/missive verbs may be dropped, turning the first verb into derivational morphemes. For instance, *bu51xu214dong51: don't move!*; *bei51hai51/shou51hai51: to be victimized*. Examine the following usage:

- (32) B: Ta55 mei35'ou5 rang51 ni21 tui51 (Beijing04:5)
 3sg Neg allow 2sg retire
 A: Bu35rang51 ne31:'e Na21r neng35 rang51 tui51 ya.
 Neg allow that how can allow retire Int
 B: They have not allowed/permit you (me) to retire yet.

⁴ In northern China *ba214* is a full verb means to hold a baby for ‘toilet training’, e.g., *ba214 niao51: hold(the baby) to pee*; or *ba214 hai35zi: hold the baby to let him/her pee*. Its basic meaning is still *to hold (with both hands)*.

A: Don't allow ... How can they allow (you) to retire.

- (33) *Bai214* *nei51* *gei214 nong55nong51*. (Beijing98:32)
 BA that for fix
 Get that fixed (for our benefit).

In both examples, the verbs *rang51* (Type II) and *gei214* (Type III) have turned into grammatical particles adding permission and benefaction to the second verb; thus changing the complex predicate into a simplex one (See Tao, 1986, for detailed discussions of these derivational morphemes and the different types of coverb patterns).

Nonetheless, the derivational morphemes have still retained their original functions as full verbs (*rang51*, *jiao51*, *shou51*), or coverbs (*gei214*). But they function more rigidly as full verbs than the rest of the lexical elements in their class. For instance, the causative morphemes *rang51* and *jiao51* do not allow nuclear operators to operate on them, whereas other full verbs all take modifications by those operators.

The question now remains whether Types II and III, the pivotal and the coverb patterns, should be included in the Chinese serial verb construction. The next section presents a unified account.

3.5. A unified account

With the analysis of clause linkage and semantic operators from the theoretical framework of RRG, the present study has demonstrated similarities and differences among the three types of syntactic patterns. The series of verbs in all three types share the peripheral layer operators at the outer layer. They also share one core layer operator at the core layer. When it comes to the nuclear operators, they may occur freely, given the right semantic constraint in types I and II serial verb construction (e.g., (21d), (22), (23) and (24c)). Type III differs from Types I and II concerning the nuclear operator, which may function with the second/governing verb in most cases. However, the nuclear operators can still operate on some of the secondary or coverbs, taking them as nuclei. Furthermore, with some of the verbs turning into auxiliaries, in both Type II and Type III, some complex clauses have turned into simplex predicates.

Having said that, this study hasten to add that lexicalization/grammaticalization of the verbs is a common feature that all three types share, at various degrees. In Type I, the directional complement *lai35*: *come* and *qu51*: *go* have been turned into 'secondary verbs' (e.g., Li & Thompson, 1981; Ding et al., 1979) or verbal complements. In Type II, the verbs *rang51/jiao51*: *allow* have been turned into causative markers. In Type III, the coverb *gei214* is often attached to the main predicate verb with *ba214* as the direct object marker, to add some benefactive or malefactive concept to the expression. Some of the lexical items from Types II and III have further developed into derivational morphemes, changing the complex predicate into a simplex one.

The differences of the three types of serial verb construction, therefore, illustrates a common feature of language and grammar. At any given stage, grammatical patterns do not remain constant, but always bear exceptional cases: some retain historical features whereas some develop into new grammatical patterns. Of the three types examined here,

Tao: SERIAL VERB CONSTRUCTION

Type I may be the most canonical type, Type II and III contain both historical features (of full verbs) and grammatical changes that turn complex predicates into simplex ones; thus moving out of the realm of serial verb construction.

Therefore, rather than excluding Types II and III as some previous studies propose, this study argues that the similarities of the three types outweigh the differences. All three should be included in the Chinese serial verb construction. The Chinese serial verb construction thus includes not just one, two or three distinctive sub-types. Instead, this construction contains three sub-types each with a gradually fuzzy boundaries under the general term of serial verb construction, with Type I showing the most prototypical or homogeneous characteristics of a serial verb construction, and Type III with the least homogeneous as a grammatical type:

(34) Chinese Serial Verb Construction: Type I > Type II > Type III

In this diagram, the left-most side indicates the most canonical and homogeneous form of the serial verb construction, and the right end has the least canonical / homogeneous pattern as the subtypes of this construction.

4. Conclusion

Following a study of clause linkage and operator constraints on the Chinese serial verb construction, this study has reached a conclusion that all three types should be included into the Chinese serial verb construction. Type III, the coverb pattern, contains the most fuzzy cases. The word "coverb" is a neutral term for a group of lexical items that actually fall into eight basic categories (e.g., Tao, 1986).

Lexical evolution in Chinese has led to the syntactic reanalysis of some main verbs as coverbs and verb complements, and has changed some complex predicates in types II and III (Pivot and coverb constructions) into simplex ones. This change actually demonstrates a distinctive feature of the development of serial verb construction cross-linguistically (see Foley & Olson 1985, Givon 1975, 2003; Lord 1973). The predictions from the theoretical framework of RRG, therefore, offer a general explanation of human language on the analysis of the interface of semantics and syntax, leading to the understanding of synchronic syntactic grammar with a diachronic perspective.

Finally, it is hoped that by allowing fuzziness in the definition of the sub-types of the serial verb construction, students who learn Chinese would be less puzzled when they encounter this construction with exceptional cases across the three sub-types.

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