

# John Benjamins Publishing Company



This is a contribution from ConSL 49:2  
© 2023. Department of English, National Taiwan Normal University

This electronic file may not be altered in any way. The author(s) of this material is/are permitted to use this PDF file to generate printed copies to be used by way of offprints for their personal use only.

Permission is granted by the publishers to post this file on a closed server which is accessible only to members (students and faculty) of the author's institute. It is not permitted to post this PDF on the internet, or to share it on sites such as Mendeley, ResearchGate, Academia.edu.

Please see our rights policy at <https://benjamins.com/content/customers/rights>  
For any other use of this material prior written permission should be obtained from the publishers or through the Copyright Clearance Center (for USA: [www.copyright.com](http://www.copyright.com)).

For further information, please contact [rights@benjamins.nl](mailto:rights@benjamins.nl) or consult our website:  
[www.benjamins.com](http://www.benjamins.com)

# Directional verb constructions in Mandarin

The interface of syntax and pragmatics  
[漢語的趨向動詞結構：句法與語用介面]

Chien-hung Lin [林建宏] and Jung-hsing Chang [張榮興]  
Tunghai University [東海大學] | National Chung Cheng University  
[國立中正大學]

In modern Chinese, a Directional Verb Construction (DVC) may contain either two or three verbs. DVCs with two verbs can be represented in three different ways, and DVCs with three verbs can be represented in four different ways. The different positions of the shared internal noun phrase (NP) argument result in divergent word orders of DVCs. Based on the Corpus of the United Daily News, this study discusses the syntax-pragmatic interface in Chinese DVCs within the framework of Role and Reference Grammar (RRG) with the intention of ascertaining how NP arguments are linked to syntax in DVCs, while at the same time accounting for what pragmatic factors play a role in determining constructional schemas for argument linking. The results show that different patterns of DVCs have different focus domains, and that the differential activation state of the internal NP argument plays an essential role in determining word order. Considering the correlation between activation state and focus domain, a highly activated internal NP tends to be linked to the position following the word *bǎ* or immediately following  $V_1$ . In contrast, a least activated NP tends to be linked to the position immediately following  $V_2$  or  $V_3$ .

**Keywords:** directional verb construction, activation state, focus domain, RRG

**關鍵詞：** 趨向動詞結構、活化狀態、焦點範疇、角色指稱語法

## 1. Introduction

In modern Mandarin, directional verb constructions (DVCs), also called directional compounds (Li & Thompson 1981), directional complements (Cui & Sung 2022), and directional constructions (Paul 2022), are common linguistic forms used to encode a motion event. Some literature has analyzed DVCs as a displacement verb with a directional complement (e.g., Liu 1998, Liu, Pan & Gu 2001, Lu 2002, Cui & Sung 2022). However, Paul (2022) indicated that this way of analyzing DVCs is only due to ignoring aspect markers, and the shared internal noun phrase (NP) argument can occur in different positions.

Following Hansell (1993), Chang (2001, 2007), and Paul (2022), this study holds the view that DVCs are composed of either two or three independent verbs which have their own argument structures and function as predicates in a single clause.  $V_1$  is usually a displacement verb indicating cause or motion, for example, *ná* ‘take’ and *bān* ‘move’.  $V_2$  is a displacement verb indicating the direction of motion, for example, *shàng* ‘ascend’, *xià* ‘descend’, *jìn* ‘enter’, *chū* ‘exit’, *huí* ‘return’, *guò* ‘pass’, *kāi* ‘open’ and *qǐ* ‘rise’.  $V_3$  is usually a deictic verb, e.g., *lái* ‘come’ and *qù* ‘go’, indicating direction towards or away from the speaker.

This study focuses on DVCs that take a non-locative NP as an internal argument. This serves as a shared argument by  $V_1$ ,  $V_2$ , and  $V_3$ . It has been noted by scholars that the non-locative NP can occur in various positions, leading to word order alternation in DVCs (Chen 2015, 2016, Paul 2022). When a DVC contains two verbs, it can be represented in three different ways. As seen in (1), the DVC contains  $V_1$  (i.e., *ná* ‘take’) and  $V_2$  (i.e., *lái* ‘come’) and the NP<sub>obj</sub> (i.e., *yī běn shū* ‘one book’) can occur either in the position following  $V_2$  or the position following  $V_1$ , as shown in (1a) and (1b). Furthermore, the NP<sub>obj</sub> can occur in the position before  $V_1$  when it is encoded as a definite form and is marked by the word *bǎ*, as in (1c). The DVCs in (1) show that  $V_1$  and  $V_2$  allow themselves to occur in adjacent or non-adjacent word order.

- (1) a. The NP<sub>obj</sub> follows  $V_2$ .  
 Tā ná lái le yī běn shū.  
 3SG take come PERF one CL book  
 ‘He brought a book here.’
- b. The NP<sub>obj</sub> follows  $V_1$ .  
 Tā ná le yī běn shū lái.  
 3SG take PERF one CL book come  
 ‘He brought a book here.’

- c. The NP<sub>obj</sub> follows the word *bǎ*.  
 Tā bǎ nà běn shū ná lái le.  
 3SG BA that CL book take come PERF  
 ‘He brought this book here.’

When a DVC contains three verbs, it can be represented in four different ways. As seen in (2), the DVC contains V<sub>1</sub> (i.e., *ná* ‘take’), V<sub>2</sub> (i.e., *chū* ‘exit’), and V<sub>3</sub> (i.e., *lái* ‘come’) and the NP<sub>obj</sub> (i.e., *yī bǎ xīguādāo* ‘a watermelon knife’) can occur in the position following V<sub>3</sub>, V<sub>2</sub>, or V<sub>1</sub>, as shown in (2a), (2b) and (2c). In addition, the NP<sub>obj</sub> can occur in the position before V<sub>1</sub> when marked by *bǎ*, as in (2d). That is, V<sub>1</sub>, V<sub>2</sub>, and V<sub>3</sub> allow themselves to occur adjacently or to be separated by the NP<sub>obj</sub>.

- (2) a. The NP<sub>obj</sub> follows V<sub>3</sub>.  
 Tā ná chū lái yī bǎ xīguādāo.  
 3SG take exit come one CL watermelon.knife  
 ‘He brought a watermelon knife.’
- b. The NP<sub>obj</sub> follows V<sub>2</sub>.  
 Tā ná chū yī bǎ xīguādāo lái.  
 3SG take exit one CL watermelon.knife come  
 ‘He brought a watermelon knife.’
- c. The NP<sub>obj</sub> follows V<sub>1</sub>.  
 Tā ná yī bǎ xīguādāo chū lái.  
 3SG take one CL watermelon.knife exit come  
 ‘He brought a watermelon knife.’
- d. The NP<sub>obj</sub> follows the word *bǎ*.  
 Tā bǎ nà bǎ xīguādāo ná chū lái.  
 3SG BA that CL watermelon.knife take exit come  
 ‘He brought that watermelon knife here.’

The examples given above show the divergent patterns of DVCs and reveal how these NP arguments are linked to the positions in these DVC patterns. Many scholars have proposed accounting for what factor determines the divergent patterns of DVCs (cf. Lu 2002, Guo 2003, Chen 2016, Paul 2022). However, none have shown how a theoretical framework can be used to account for the distributional puzzles of DVCs. This study explores the syntax-pragmatics interface in Chinese DVCs within the framework of Role and Reference Grammar (RRG) (Van Valin & LaPolla 1997, Van Valin 2005), with the goal of finding out how arguments are linked to syntax in DVCs, while at the same time accounting for what pragmatic factors play a role in determining the constructional template for argument linking. The data for this study were collected from the Corpus of the United Daily News.

The rest of this paper is organized as follows: Section 2 provides a review of the literature; Section 3 illustrates the theoretical framework of RRG; Section 4 discusses the syntax-pragmatics interface of DVCs; Section 5 explores how NP arguments are linked to the syntactic template of DVCs; and Section 6 offers concluding remarks.

## 2. Literature review

### 2.1 Chinese DVCs

Mandarin DVCs are traditionally considered as a subtype of resultative verb compounds, in which a displacement verb specifies an action and a resultative complement signifies the result of the action (cf. Li & Thompson 1981, Cui & Sung 2022). However, some scholars have different views on DVCs. Taking a syntactic perspective, Tai (2003) and Lamarre (2003) argued that directional complements of DVCs can stand alone to serve as a main verb in a clause and are not complements attached to displacement verbs. From a semantic perspective, Lu (1977) claimed that DVCs are semantically distinct from resultative verb compounds because the former denote a manner-direction relation while the latter denote a cause-result relation. Paul (2022) argued that DVCs should be analyzed as strings with more than one verb within a sentence, namely serial verb constructions, when taking the aspect marker *le* and the occurring position of the shared NP argument into consideration.

In the literature, DVCs can be categorized according to several aspects. Concerning the internal NP argument of DVCs, two types of DVCs have been identified, namely (a) DVCs with a locus NP<sub>obj</sub>, and (b) DVCs with a non-locative NP<sub>obj</sub>. These two types of DVC mainly differ in their argument sharing and syntactic alternation. DVCs with a locus NP<sub>obj</sub> as exemplified in (3) show that the only syntactic position available for the locative NP<sub>obj</sub> (i.e., *fángjiān* ‘room’) is the position following V<sub>1</sub> (i.e., *zǒu* ‘walk’), and V<sub>1</sub> and V<sub>2</sub> (i.e., *qù* ‘go’) share the NP argument (i.e., *tā* ‘he’). As for the DVC with a non-locus NP<sub>obj</sub> shown in (4), the NP<sub>obj</sub> (i.e., *yī bǎ yǐzi* ‘a chair’) serves as the shared argument of V<sub>1</sub> and V<sub>2</sub>, and therefore the NP<sub>obj</sub> can occur either in the position following V<sub>1</sub> (i.e., *lái* ‘come’) in (4a) or V<sub>2</sub> (i.e., *bān* ‘move’) in (4b). Hence, following Collins’s (1997) definition of serial verb constructions (SVCs), Paul (2022) identified the DVCs that contain a non-locative NP<sub>obj</sub> as a subtype of SVCs due to internal argument sharing. This study focuses on DVCs with a non-locative NP<sub>obj</sub>, with the intention of exploring the issue of word order alternation.

- (3) DVCs with a locus NP<sub>obj</sub>
- a. Tā zǒu qù fángjiān.  
3SG walk go room  
'He entered the room.'
- b. \*Tā zǒu fángjiān qù.  
3SG walk room go
- (4) DVCs with a non-locative NP<sub>obj</sub>
- a. Tā bān lái yī bǎ yǐzi.  
3SG move come one CL chair  
'He brought a chair.'
- b. Tā bān yī bǎ yǐzi lái.  
3SG move one CL chair come  
'He brought a chair.'

Concerning the issue of component encoding direction, DVCs can be categorized into three types (Li & Thompson 1981, Tseng 2010): (a) the deictic verbs, i.e., *lái* 'come' and *qù* 'go'; (b) the eight directional verbs: *shàng* 'ascend', *xià* 'descend', *jìn* 'enter', *chū* 'exit', *huí* 'return', *guò* 'pass', *kāi* 'open' and *qǐ* 'rise'; and (c) a combination of a directional verb and a deictic verb, for example, *chū lái* 'come out' and *chū qù* 'go out'. This three-fold division can be reduced to a dichotomy according to the number of verbs, which are (a) simple DVCs, and (b) complex DVCs (Chen 2015, Paul 2022). Simple DVCs refer to constructions of two verbs, that is, a displacement verb plus a deictic verb, or a displacement verb plus a direction verb. Different constitutions of simple DVCs lead to various word alternations, as shown in (5) and (6). Complex DVCs refer to constructions formed by a displacement verb, a directional verb, and a deictic verb. The word order alternations are shown in (7).

- (5) Simple DVCs with a deictic verb
- a. Tā ná lái le yī běn shū.  
3SG take come PERF one CL book  
'He brought a book.'
- b. Tā ná le yī běn shū lái.  
3SG take PERF one CL book come  
'He brought a book.'
- (6) Simple DVCs with a directional verb
- a. Tā ná huí le yī běn shū.  
3SG take return PERF one CL book  
'He took back a book.'

- b. \*Tā ná le yī běn shū huí.  
3SG take PERF one CL book return

(7) Complex DVCs

- a. Tā ná chū lái le yī běn shū.  
3SG take exit come PERF one CL book  
'He took out a book.'
- b. Tā ná chū le yī běn shū lái.  
3SG take exit PERF one CL book come  
'He took out a book.'
- c. Tā ná le yī běn shū chū lái.  
3SG take PERF one CL book exit come  
'He took out a book.'

Verkuyl (1996) stated that other components in a sentence might contribute to the aspectual interpretation. Additionally, it has been noted that the order of verbs within a sentence is associated with the interpretation of aktionsart. Kimura (1984) illustrated an aspectual opposition between the two orders, where the adjacent order is said to imply a 'static aspect', indicating the result of the event, while the non-adjacent order implies a 'motion aspect', referring to the progression of an event. Paul (2022) identified the difference in the dichotomy between telic and atelic eventualities and concluded that the adjacent order of verbs gives rise to a telic eventuality, whereas the non-adjacent order results in an atelic eventuality. In light of this, DVCs with a non-adjacent order give rise to an atelic interpretation that does not necessarily entail an endpoint, while the adjacent order gives rise to a telic interpretation entailing a finishing point.

Different aktionsart types lead to different compatibilities with imperfective aspect. Taking a simple DVC as an example in (8a), the DVC has a non-adjacent order of verbs and is compatible with the imperfective aspect marker *zhèng*, signifying the progressive interpretation. In contrast, in (8b), the DVC has an adjacent order of verbs and is incompatible with the imperfective aspect.

- (8) a. Tā zhèng duān yī wǎn fàn lái.  
3SG PROGR serve one CL rice come  
'He is bringing a bowl of rice.'
- b. \*Tā zhèng duān lái yī wǎn fàn.  
3SG PROGR serve come one CL rice

As for complex DVCs, Chen (2015) pointed out that a complex DVC with non-adjacent word order of verbs conveys an atelic interpretation. It is therefore compatible with the imperfective aspect, as exemplified in (9a) and (9b). In contrast, a DVC with an adjacent word order of verbs is incompatible with the imperfective aspect, as shown in (9c).

- (9) a. Tā zhèng duān yī wǎn fàn chū lái.  
3SG PROGR serve one CL rice exit come  
'He is bringing a bowl of rice.'
- b. Tā zhèng duān chū yī wǎn fàn lái.  
3SG PROGR serve exit one CL rice come  
'He is bringing a bowl of rice.'
- c. \*Tā zhèng duān chū lái yī wǎn fàn.  
3SG PROGR serve exit come one CL rice

Zhu (1982) observed that indefinite internal NP arguments are allowed in all three positions available for a complex SVC, while definite NP arguments are banned from the post-verbal position in the adjacent order. That is, distribution of the definite NP argument is more constrained. Paul (2022) argued that the internal argument must follow verb bearing an aspectual suffix (i.e., *le*), and further suggested that the correlation between word order and definiteness of the internal NP argument needs to be further examined. So far, only a few studies have addressed how a DVC's internal NP argument contributes to aspectual interpretation and word order alternation. To address this gap, this study focuses on DVCs with non-locative internal NP arguments, and explores the correlation between word order alternation and the activation states of the NP<sub>obj</sub> argument.

## 2.2 Role and reference grammar

RRG is a functional grammar model concerning the interaction between structure, meaning, and communicative function in human language (Van Valin & LaPolla 1997, Van Valin 2005). It posts three essential representations: (a) a syntactic representation that closely corresponds to the actual form of utterances; (b) a semantic representation that represents the meaning of linguistic expressions; and (c) a representation of information structure that is related to discourse-pragmatics factors. In addition, there is a set of linking algorithms mapping between syntactic and semantic representation. The organization of RRG is summarized in Figure 1.

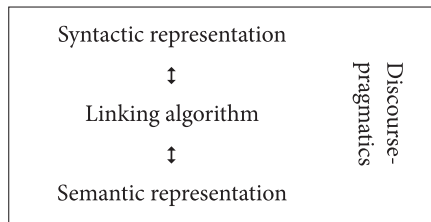


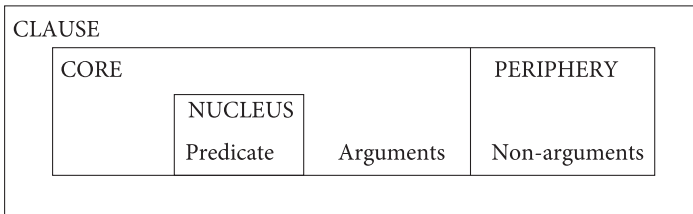
Figure 1. Organization of RRG

(Van Valin 2005:2)



### 2.2.1 Syntactic representation

In RRG, the conception of syntax is a layered structure of a clause, which is determined by two constraints: (a) predicate or non-predicate and (b) argument or non-argument (Van Valin & LaPolla 1997, Van Valin 2005). In a layer structure of a clause, the ‘nucleus’ is the primary element that contains a predicate realized by a verb. The next layer is the ‘core’ which contains a nucleus and the core arguments of the predicate. The non-argument of a predicate is categorized as the ‘periphery’. All the layered structure syntactic units are summarized in Figure 2.



**Figure 2.** The layered structure of the clause

(Nolan 2012: 5)

These central components of the layered structure of a clause turn out to be the fundamental building blocks of complex sentences. The default pattern for the construction of complex sentences involves combining nuclei with nuclei, cores with cores, clauses with clause and sentences with sentences. These are called levels of juncture in RRG, i.e., nuclear juncture, core juncture, clausal juncture, and sentential juncture (Van Valin 2005). Furthermore, RRG postulates three nexus relations between clauses in complex sentences, i.e., coordination, cosubordination, and subordination (Van Valin 2005). The crucial feature that distinguishes cosubordination from coordination is the sharing of some grammatical categories, e.g., tense and mood.

Grammatical categories, such as tense, aspect, negation, and illocutionary force, are treated as operators which modify different layers of a clause. Each of the clause levels may be modified by one or more operators. The operators in a clause are shown in Table 1. Note that the operator ‘directionals’ is divided into two types. The type at the nuclear level signifies the direction of action, while the one at the core level signifies the orientation with reference to the speaker.

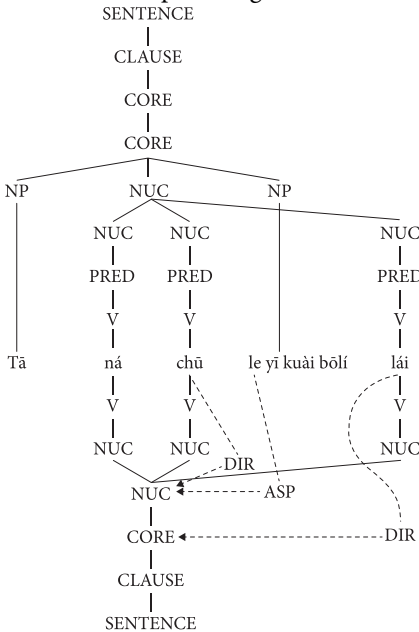
RRG’s syntactic representation is exemplified in (10). As for Mandarin DVCs with three verbs, the verbs (i.e.,  $V_1$  *ná* ‘took’,  $V_2$  *chū* ‘exit’, and  $V_3$  *lái* ‘come’) constitute a nuclear juncture, as shown in (10). The directional verb (i.e., *chū* ‘exit’) also functions as a nuclear operator modifying the direction of the motion. The deictic verb (i.e., *lái* ‘come’) functions as a core operator conveying the orientation of motion with reference to the speaker, as the operator projection given in (10). The

**Table 1.** Operators in the layered structure of a clause (Van Valin 2005:9)

Nuclear operators	Aspect Negation Directionals (only those modifying orientation of action or event without reference to participants)
Core operators	Directionals (only those expressing the orientation or motion of one participant with reference to another participant or to the speaker) Event quantification Modality (root modals, e.g., ability, permission, obligation) Internal (narrow scope) negation
Clausal operators	Status (epistemic modals, external negation) Tense Evidentials Illocutionary force

aspect marker *le* occurs in the position immediately following  $V_2$  (i.e., *chū* ‘exit’), modifying the nuclear juncture. Thus, it would provide evidence to analyze the structure as a nuclear cosubordination.

- (10) Tā ná chū le yī kuài bōlí lái.<sup>1</sup>  
 he take exit PERF one CL glass come  
 ‘He took out a piece of glass.’



1. ASP stands for aspect, and DIR for directionals.

### 2.2.2 Semantic representation

Semantic representation in RRG is related to lexical decomposition based on Vendler's (1967) aktionsart classification to capture the distinctions among eventualities. In RRG taxonomy, two eventualities are added based on Vendler's (1967) classification: semelfactive and active accomplishment. These eventualities can be characterized in terms of four features: [ $\pm$ static], [ $\pm$ dynamic], [ $\pm$ telic] and [ $\pm$ punctual] (Van Valin 2005). The diagnostic tests for these eventualities are given in Table 2.

**Table 2.** Diagnostic tests for aktionsart classes<sup>a,b</sup> (Van Valin 2005: 35)

Diagnostic tests	State	Achiev	Semel	Accomp	Activity	Active
						accomp
1. Occurs with progressive	No*	No*	No*	Yes	Yes	Yes
2. Occurs with adverbs like <i>vigorously, actively, etc.</i>	No	No	Some*	No	Yes	Yes
3. Occurs with adverbs like <i>quickly, slowly, etc.</i>	No	No*	No*	Yes	Yes	Yes
4. Occurs with <i>X for an hour</i>	Yes*	No*	Yes*	Irrelevant*	Yes	Irrelevant*
5. Occurs with <i>X in an hour</i>	No	No*	No*	Yes	No	Yes
6. Can be used as a stative modifier	No	Yes	No	Yes	No	Yes

a. The "\*" means that certain complexities or exceptions may arise when applying the test.

b. "Achiev" stands for achievement, "semel" for semelfactive, and "accomp" for accomplishment.

In Table 2, for example, the tests "occurs with X for an hour" and "occurs with X in an hour" effectively distinguish telic from atelic events. The six eventualities with their semantic structure are summarized in Table 3. The semantic representation system in Table 3 is employed to represent the semantic structures of Chinese DVCs used in this study.

### 2.2.3 Information structure

In RRG, the representation of the information structure builds upon Lambrecht's (1994) theory of information structure. Two essential pragmatic factors are proposed: (a) pragmatic states and (b) pragmatic relations.

Pragmatic states are concerned with the mental representation of a referent within an utterance; thus, identifiability and activation are considered. Identifiability refers to a speaker's assessment of a discourse representation of a particular referent, recognizing whether it is already stored in the hearer's mind or not

**Table 3.** Semantic structures of the six eventualities<sup>a</sup> (Van Valin 2005: 45)

Eventualities	Semantic structure
State:	<b>predicate'</b> (x) or (x, y)
Achievement	INGR <b>predicate'</b> (x) or (x, y), or INGR <b>do'</b> (x, [ <b>predicate'</b> (x) or (x, y)])
Semelfactive	SEML <b>predicate'</b> (x) or (x, y)], or SEML <b>do'</b> (x, [ <b>predicate'</b> (x) or (x, y)])
Accomplishment	BECOME <b>predicate'</b> (x) or (x, y)], or BECOME <b>do'</b> (x, [ <b>predicate'</b> (x) or (x, y)])
Activity	<b>do'</b> (x, [ <b>predicate'</b> (x) or (x, y)])
Active accomplishment	<b>do'</b> (x, [ <b>predicate'</b> <sub>1</sub> (x, (y))]) & INGR <b>predicate'</b> <sub>2</sub> (z, x) or (y)

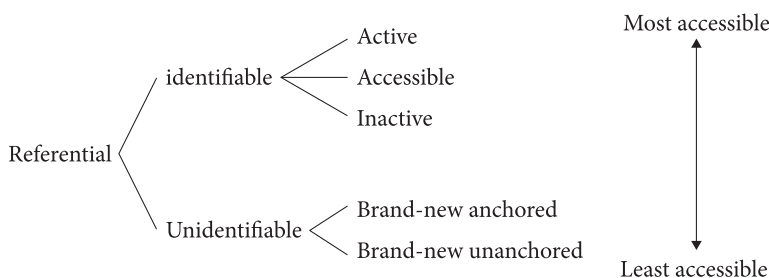
a. INGR stands for ingressive, indicating punctual changes of state or activity. SEML stands for semelfactive, meaning punctual events with no resultative state.

(Lambrecht 1994). The activation refers to a speaker's assessment of the status of the representation of an identifiable referent as activated, accessible, or inactive in the mind of the hearer (Lambrecht 1994). Based on Prince (1981), Chafe (1987), and Lambrecht (1994), RRG summarizes five levels of referent activation states, namely (a) brand-new unanchored, (b) brand-new anchored, (c) accessible, (d) inactive, and (e) active.

Following Van Valin & LaPolla (1997), brand-new unanchored refers to a referent first introduced into the context and not assumed to be related to anything mentioned or available to the interlocutors. Brand-new anchored refers to a new referent introduced into the context and may also be related to some more identifiable referent in the context. Both states of referent are subsumed as unidentifiable referents. A referent identified as brand-new anchored or brand-new unanchored is subsumed as an unidentifiable referent to the hearer.

As defined by Van Valin & LaPolla (1997), inactive refers to a referent in the hearer's long-term memory yet not in their short-term memory, that is, not in either the focus or periphery of consciousness. Accessible state refers to a referent that is not the current focus of context but is textually, situationally, or inferentially available. Active state refers to a referent that is the current focus of consciousness in the context. A referent identified as one of these three activation states is subsumed as an identifiable referent to the hearer. The distinctions between the activation states of referents and their degree of accessibility are summarized in Figure 3.

An interlocutor will choose a particular linguistic form to code a referent, aiming for the hearer to create the proper interpretation with the least amount of processing (Gundel 1988). For instance, zero marking or a definite form of a refer-



**Figure 3.** The activation statuses and acceptability scale

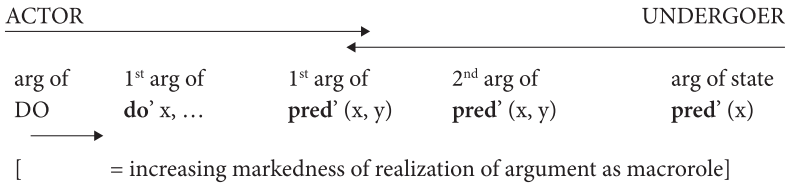
(Van Valin & LaPolla 1997: 201, 204)

ent usually indicates that the referent is the most accessible one. Indefinite coding of a referent usually indicates that the referent is not identifiable in the context.

Pragmatic relations are concerned with a proposition the speaker hopes the addressee will come to know, or will be aware of the information mentioned (Van Valin & LaPolla 1997). Lambrecht (1994) identified the two primary information statuses, namely topic and focus, as the two primary information statuses. In an utterance, focus means that an assertion differs from the presupposition, while topic means that an assertion coincides with the presupposition (Van Valin 2005). RRG further distinguishes between two types of focus domain, namely (a) narrow focus, and (b) broad focus. Narrow focus only covers a single constituent (i.e., an NP), while broad focus encompasses more than one constituent (i.e., a predicate or a sentence) (Van Valin 2005).

#### 2.2.4 Linking algorithm

The linking algorithm is a distinctive feature of RRG, aimed at dealing with syntactic and semantic interaction. The RRG linking algorithm is bidirectional. The algorithm concerning “link semantics to syntax” represents the production process, while the algorithm which “links syntax to semantics” indicates the comprehension process (Van Valin & LaPolla 1997, Wu 2007). As for “link semantics to syntax”, four steps are proposed. The first determines the layered structure of the target sentence. The second constitutes the semantic structure of the target sentence. The third determines the semantic macrorole of arguments. The realization of an argument as a macrorole is determined by the Actor-Undergoer Hierarchy given in Figure 4 and the Default Macrorole Assignment Principles stated in (11) (Van Valin 2005).



**Figure 4.** The Actor-Undergoer Hierarchy (Van Valin 2005: 61)

(11) Default Macrorole Assignment Principles<sup>2</sup>

- a. Number: the number of macroroles a verb takes is less than or equal to the number of arguments in its logical structure,
  - 1. If a verb has two or more arguments in its LS, it will take two macroroles.
  - 2. If a verb has one argument in its LS, it will take one macrorole.
- b. Nature: for verbs which take one macrorole,
  - 1. If the verb has an activity predicate in its LS, the macrorole is actor.
  - 2. If the verb has no activity predicate in its LS, the macrorole is undergoer.

(Van Valin 2005: 63)

In general, the leftmost argument in a hierarchy will be selected as the Actor, and the rightmost will be selected as the Undergoer (Van Valin 2005). After identifying the actor and undergoer, the fourth step is to link the arguments to syntactic representation. It should be noted that the selection of the privileged syntactic argument (PSA), generally known as the subject of a sentence, is captured via the privileged syntactic argument selection hierarchy, as given in (12). Principally, in accusative constructions, the macrorole at the leftward edge is the default choice. In contrast, in ergative constructions, the macrorole on the rightward edge is the default choice.

(12) Privileged syntactic argument selection hierarchy

arg of DO > 1st arg of do' > 1st arg of pred' (x, y) > 2nd arg of pred' (x, y) > arg of pred' (x)

Based on the RRG framework, this study hypothesizes that a speaker will choose a proper DVC pattern according to different activation states of the internal NP<sub>obj</sub> argument. That is, the activation state of the NP<sub>obj</sub> determines where it is linked to syntactic representation.

2. LS stands for logical structure, namely semantic structure, in this study.

### 3. Mandarin directional verb constructions

This study mainly focuses on the DVCs containing a non-locative internal NP argument, aiming to offer a systematic account for word order alternation. Two types of DVCs are analyzed, namely DVCs with two verbs and these with three verbs. In the following discussion, the related pragmatic factors associated with different patterns of DVCs will be discussed.

#### 3.1 Mandarin DVCs with two verbs

This section discusses DVCs containing two verbs, in which  $V_1$  is usually a displacement verb and  $V_2$  is a deictic verb. As for the argument structure, the second argument of  $V_1$  and the first argument of  $V_2$  refer to the same referent. DVCs composed of a displacement verb and a directional verb are excluded from the current discussion because such a constitution does not involve word order alternation (Chen 2015, 2016, Paul 2022). DVCs with two verbs can be classified into three different types. Type I refers to a construction in which  $V_1$  and  $V_2$  are in adjacent order, while Type II refers to a construction in which  $V_1$  and  $V_2$  are not in adjacent order. Type III refers to a construction employing the word *bǎ*.

DVCs with two verbs in adjacent order are exemplified in (13), in which  $V_1$  is a displacement verb (i.e., *ná* ‘take’) and  $V_2$  is a deictic verb (i.e., *lái* ‘come’). The transitive  $V_1$  takes *tā* ‘he’ and *yī píng báishuǐ* ‘a bottle of water’ as its arguments. The first argument of intransitive  $V_2$  is identical to the second argument of  $V_1$ . The NP<sub>obj</sub> is first mentioned in the context and is coded as an indefinite form modified by a numeral (i.e., *yī* ‘one’) and a classifier (i.e., *píng* ‘bottle’).

(13) NP<sub>subj</sub>+ $V_1$ + $V_2$ +NP<sub>obj</sub> (Type I DVCs with two verbs)

Wǒ zhàn le yī ge zhuōzi, zhǐ diǎn zhè yī dào bù suàn guì de jiāchángcài, zhèng yǒu diǎn xīnxū, tā què zhèngzhòngqíshì dì diǎnrán zhuō shàng de làzhú, bìng ná lái yī píng báishuǐ, wéi wǒ zhēn shàng. (United Daily News, Feb. 1996)

‘I occupied a table but only ordered this cheap home-cooked dish. I have a guilty conscience, but the boss solemnly lit the candle on the table. Then, he brought a bottle of water and poured it for me.’

Tā ná lái yī píng báishuǐ.  
3SG take come one CL water  
‘He brought a bottle of water.’

Li & Thompson (1981) argued that DVCs are similar to resultative verb constructions (RVCs), signifying accomplishment eventuality. However, Paul (2022)

indicated that the DVCs with a non-adjacent order of verbs involve atelic interpretation, while the DVCs with an adjacent order of verbs convey telic interpretation. Thus, in-adverbials and imperfective aspect are used to confirm the telicity of DVCs. To know the activation state of NP<sub>obj</sub> in DVCs, the definiteness of the NP<sub>obj</sub> and its relation to contextual information are examined. To discover the focus domain of DVCs, Mandarin pseudo-cleft sentences (i.e., *de...shì*) and cleft sentences (i.e., *shì...*), are employed. The pseudo-cleft sentence (i.e., *de...shì*) can intervene between the verb and argument to mark the object NP as a focus (Teng 1979, Lambrecht 1994, Hole 2011); thus, it is used to examine whether a DVC involves narrow focus. Teng (1979) and Zhan & Sun (2013) claimed that *shì* is a focus marker and it is employed to examine whether a DVC involves broad focus.

After examining the pragmatic performance of the DVC in (13), the compatibility with the in-adverbial (i.e., *yī xiǎoshí nèi* ‘in one hour’) and the incompatibility with the imperfective aspect marker (i.e., *zhèng*) show its telic interpretation, as in (14a) and (14b). The NP argument (i.e., *yī píng bái shuǐ* ‘a bottle of water’) is a referent which has just been introduced into the context, indicating its brand-new unanchored state. Thus, substituting the definite referent as an indefinite one (i.e., *zhè píng bái shuǐ* ‘this bottle of water’) leads to ungrammaticality, as in (14c). Regarding the focus domain, this DVC pattern is compatible with a pseudo-cleft construction, as in (14d), but is incompatible with a cleft construction, as in (14e), indicating that this DVC involves narrow focus.

- (14) a. Tā yī xiǎoshí nèi ná lái yī píng bái shuǐ.  
 3SG one hour in take come one CL water  
 ‘He brought a bottle of water within an hour.’  
 b. \*Tā zhèng ná lái yī píng bái shuǐ.  
 3SG PROGR take come one CL water  
 c. \*Tā ná lái zhè píng bái shuǐ.  
 3SG take come this CL water  
 d. Tā ná lái de shì yī píng bái shuǐ.  
 3SG take come DE COP one CL water  
 ‘What he brought is a bottle of water.’  
 e. \*Tā shì ná lái yī píng bái shuǐ.  
 3SG COP take come one CL water

A DVC with two verbs in non-adjacent order is exemplified in (15), in which an NP argument intervenes between V<sub>1</sub> (i.e., *ná* ‘take’) and V<sub>2</sub> (i.e., *lái* ‘come’). The transitive V<sub>1</sub> takes *kēbǐ tàitai* ‘Mrs. Kebi’ and *yī ge tīzi* ‘a ladder’ as its argument. The argument of intransitive V<sub>2</sub> and the second argument of V<sub>1</sub> refer to the same referent. This shared NP<sub>obj</sub> argument is encoded as an indefinite form (i.e., *yī ge tīzi* ‘a ladder’).



(15) NP<sub>subj</sub>+V<sub>1</sub>+NP<sub>obj</sub>+V<sub>2</sub> (Type II DVCs with two verbs)

Kēbǐ fūfū lìkè jià chē yuè wǎng nà dòng zháohuǒ de fángzi, qù jiù xiǎolún-nàdé, dàn wéi nóngyān suǒ zǔ, wúfǎ jìn rù. Kēbǐ tàitai gǎnjí jià chē huí qù, nà yī ge tīzi lái, yǐbiàn cóng xiǎolúnnàdé de wòshì chuāngzi pá jìn qù.

(United Daily News, Aug. 1964)

‘The Kebi couple immediately drove to the burning house to save Leonard Jr., but the smoke blocked them. Mrs. Kebi returned home in a hurry and brought a ladder to climb in through Leonard Jr.’s bedroom window.’

Kēbǐ tàitai nà yī ge tīzi lái.

Kebi madam take one CL ladder come

‘Mrs. Kebi brought a ladder.’

As for the DVC, the incompatibility with the in-adverbial (i.e., *yī xiǎoshí nèi* ‘in one hour’) and the compatibility with the imperfective aspect marker (i.e., *zhèng*) show its atelic interpretation, as in (16a) and (16b). Although the NP<sub>obj</sub> (i.e., *yī ge tīzi* ‘a ladder’) is coded as an indefinite form, it is textually available due to the related word mentioned, that is, *zháohuǒ de fángzi* ‘the house on fire’ and *nóngyān* ‘thick smoke’. Thus, replacing the indefinite referent with a definite one (i.e., *jiā lǐ nà ge tīzi* ‘that ladder at home’), is also acceptable, as in (16c), showing that the NP<sub>obj</sub> is identifiable (i.e., accessible state or inactive state). Furthermore, this sentence pattern is incompatible with the pseudo-cleft construction in (16d), but it is compatible with the cleft construction in (16e), showing that the DVC involves broad focus.

- (16) a. \*Kēbǐ tàitai yī xiǎoshí nèi nà yī ge tīzi lái.  
Kebi madam one hour in take one CL ladder come
- b. Kēbǐ tàitai zhèng nà yī ge tīzi lái.  
Kebi madam PROG take one CL ladder come  
‘Mrs. Kebi is bringing a ladder.’
- c. Kēbǐ tàitai nà jiā lǐ nà ge tīzi lái.  
Kebi madam take home inside that CL ladder come  
‘Mrs. Kebi brought the ladder over from her house.’
- d. \*Kēbǐ tàitai nà de shì yī ge tīzi lái.  
Kebi madam take DE COP one CL ladder come
- e. Kēbǐ tàitai shì nà yī ge tīzi lái.  
Kebi madam COP take one CL ladder come  
‘As for Mrs. Kebi, it is true that she brought a ladder.’

Type III refers to a DVC with two verbs as applied to the *bǎ*-construction. As the DVC in (17), V<sub>1</sub> (i.e., *nà* ‘take’) and V<sub>2</sub> (i.e., *lái* ‘come’) occur in adjacent order. The transitive V<sub>1</sub> takes *wǒ* ‘I’ and *yíshū* ‘suicide note’ as arguments. V<sub>1</sub> and V<sub>2</sub> share the NP<sub>obj</sub> (i.e., *yíshū* ‘suicide note’), and it is marked by the word *bǎ*.

(17) NP<sub>subj</sub>+ *bǎ*-NP<sub>obj</sub>+ V<sub>1</sub>+V<sub>2</sub> (Type III DVCs with two verbs)

Tā shuō tàitai zìshā tā bù xiǎode, hòulái jiá zài zhuō shàng yǒu yī fēng yíshū  
xiě hǎo jǐ yè, shuō tā xiānshēng duì tā bù hǎo, rúguǒ zuótiān hé niángjiā dǎ  
wán diànhuà cái xiě, jù tā xiānshēng jiǎng yòu méi zhè huí shì, suǒyǐ wǒ bǎ  
yíshū ná lái yī kàn, xiě yángyángsǎsǎ liǎng sān yè yīnggāi shì huā hěn jiǔ de  
shíjiān xiě de. (United Daily News, Jan. 2006)

‘He said he did not know that his wife had committed suicide. Later, a suicide note was found on the table. The note, which was several pages long, stated that her husband had not treated her well. It is believed to have been written after she called her parents yesterday, but her husband denied such an inference. So, I read the suicide note. It was two or three pages long and must have taken a long time to write.’

Wǒ bǎ yíshū ná lái.  
I BA suicide.note take come  
‘I brought the suicide note.’

As shown in (18a) and (18b), the Type III DVC is compatible with the in-adverbial (i.e., *yī xiǎoshí nèi* ‘in one hour’) but is incompatible with the imperfective aspect marker (i.e., *zhèng*), indicating its telic interpretation. The NP<sub>obj</sub> (i.e., *yíshū* ‘suicide note’) belongs to the active state and serves as the current topic in (17). Thus, encoding the NP<sub>obj</sub> as an indefinite form (i.e., *yī fēng yíshū* ‘a suicide note’) leads to ungrammaticality, as in (18c). Additionally, following Tsao (1987) and Zhang, Duan & Pan (2017), the NP argument following the word *bǎ* is identified as a secondary topic, namely old information. The focus domain of the *bǎ*-construction is the narrow focus, with the actual focus domain only covering a verb complex unit (i.e., *ná lái* ‘bring’). The pseudo-cleft test in (18d) and the cleft test in (18e) affirm the scholars’ observation. After examining the three types of DVCs with two verbs, the findings are summarized in Table 4.

- (18) a. Wǒ yī xiǎoshí nèi bǎ yíshū ná lái.  
1SG one hour in BA suicide.note take come  
‘I brought the suicide note within an hour.’  
b. \*Wǒ zhèng bǎ yíshū ná lái.  
1SG PROGR BA suicide.note take come  
c. \*Wǒ bǎ yī fēng yíshū ná lái.  
1SG BA one CL suicide.note take come  
d. \*Wǒ bǎ de shì yíshū ná lái.  
1SG BA DE COP suicide.note take come  
e. Wǒ shì bǎ yíshū ná lái.  
1SG COP BA suicide.note take come  
‘As for me, it is true that I brought the suicide note.’

Table 4. DVCs with two verbs and their associated pragmatic factors

	Surface form	Telicity	Focus structure	Activation state of NP <sub>obj</sub>
Type I	NP <sub>subj</sub> +V <sub>1</sub> +V <sub>2</sub> +NP <sub>obj</sub>	Telic	Narrow focus NP <sub>subj</sub> +V <sub>1</sub> +V <sub>2</sub> + $[$ NP <sub>obj</sub> $]$	Brand-new unanchored Brand-new anchored
Type II	NP <sub>subj</sub> +V <sub>1</sub> +NP <sub>obj</sub> +V <sub>2</sub>	Atelic	Broad focus NP <sub>subj</sub> + $[$ V <sub>1</sub> +NP <sub>obj</sub> +V <sub>2</sub> $]$	Inactive Accessible
Type III	NP <sub>subj</sub> + <i>bǎ</i> -NP <sub>obj</sub> + V <sub>1</sub> V <sub>2</sub>	Telic	Narrow focus NP <sub>subj</sub> + <i>bǎ</i> -NP <sub>obj</sub> + $[$ V <sub>1</sub> V <sub>2</sub> $]$	Accessible Active

As shown in Table 4, Type I and Type III DVCs involving adjacent order convey telic interpretation, while Type II involving non-adjacent order conveys atelic interpretation. This result affirms the observation of Kimura (1984) and Paul (2022). After examining by cleft sentence and pseudo-cleft sentence, Type I and Type III involve narrow focus, while Type II involves broad focus. The focus structure is signified by brackets, as shown in Table 4. Regarding the shared internal NP argument, Type I is only compatible with an unidentifiable referent (i.e., brand-new unanchored and brand-new anchored). Type II can take an identifiable NP<sub>obj</sub> in either its inactive or accessible state. Type III can only take an identifiable NP<sub>obj</sub> in its accessible or active state. When the NP<sub>obj</sub> marked by the word *bǎ* is accessible, the referent and its antecedent may have an indirect anaphora relation, and this relation is bridged by the metonymy mechanism (Chen 2010).

### 3.2 Mandarin DVCs with three verbs

This section discusses DVCs with three verbs, in which the first argument of V<sub>2</sub> and V<sub>3</sub> is identical to the second argument of V<sub>1</sub>. DVCs with three verbs are classified into four types. Type I refers to the construction in which V<sub>1</sub>, V<sub>2</sub>, and V<sub>3</sub> are in adjacent order. Type II refers to the construction in which V<sub>1</sub> is adjacent to V<sub>2</sub>, while an NP<sub>obj</sub> intervenes between V<sub>2</sub> and V<sub>3</sub>. Type III refers to the construction in which an NP<sub>obj</sub> intervenes between V<sub>1</sub> and V<sub>2</sub>, and V<sub>2</sub> and V<sub>3</sub> are in adjacent order. Type III is related to the *bǎ*-construction in which V<sub>1</sub>, V<sub>2</sub>, and V<sub>3</sub> occur in adjacent order. The following details the telicity, activation states, and focus domain of these four types of DVC.

Type I DVCs with three verbs are exemplified in (19), in which V<sub>1</sub> (i.e., *ná* ‘take’), V<sub>2</sub> (i.e., *chū* ‘out’), and V<sub>3</sub> (i.e., *lái* ‘come’) occur in adjacent order. The

transitive  $V_1$  takes *tā* ‘she’ and *yī běn zhàopiànniánbù* ‘a photo album’ as arguments. The first NP argument of intransitive  $V_2$  and  $V_3$  are identical to the second argument of  $V_1$ , and the argument is coded as an indefinite form (i.e., *yī běn zhàopiànniánbù* ‘a photo album’).

- (19) NP<sub>subj</sub>+ $V_1$ + $V_2$ + $V_3$ +NP<sub>obj</sub> (Type I DVCs with three verbs)

Zài wǒmen gàosù tā guānyú wǒmen dì bà mā dì zhōngzhōng yǐhòu, tā túrán qǐshēn dào nèishì, ná chū lái yī běn zhàopiànniánbù, yòu cóng bù shàng fān dào yī zhāng zhàopiàn, xiàomímí de shuō, “Zhè shì wǒ dì māmā dì xiàngpiàn, nǐ kàn, tā hǎo kàn ma?” (United Daily News, Oct. 1961)

‘After we told her about our parents, she suddenly got up and went to the inner room, took out a photo album, flipped through to a photo in the album, and said with a smile: This is a photo of my mother. Isn’t she good-looking?’

Tā ná chū lái yī běn zhàopiànniánbù.  
3SG take exit come one CL photo.album  
‘She took out a photo album.’

After examining the pragmatic performance of the DVC, its compatibility with the in-adverbial (i.e., *yī xiǎoshí nèi* ‘in one hour’) and incompatibility with the imperfective aspect marker (i.e., *zhèng*) shows its telic interpretation, as shown in (20a) and (20b). Unlike the indefinite form, coding the shared NP<sub>obj</sub> as a definite form leads to ungrammaticality, as shown in (20c). Concerning the focus domain, this DVC pattern is compatible with the pseudo-cleft construction, marking *yī běn zhàopiànniánbù* ‘a photo album’ as the focus information, as shown in (20d). However, it is incompatible with the cleft construction, as shown in (20e). Thus, the result is that this DVC involves narrow focus.

- (20) a. Tā yī xiǎoshí nèi ná chū lái yī běn zhàopiànniánbù.  
3SG one hour in take exit come one CL photo.album.  
‘She took out a photo album in one hour.’  
b. \*Tā zhèng ná chū lái yī běn zhàopiànniánbù.  
3SG PROGR take exit come one CL photo.album.  
c. \*Tā ná chū lái zhè běn zhàopiànniánbù.  
3SG take exit come this CL photo.album  
d. Tā ná chū lái de shì yī běn zhàopiànniánbù.  
3SG take exit come DE COP one CL photo.album  
‘What she took out is a photo album.’

- e. \*Tā shì ná chū lái yī běn zhàopiànniánbù.  
3SG COP take exit come one CL photo.album

Example (21) shows Type II DVCs with three verbs, in which  $V_1$  (i.e., *ná* ‘take’) is adjacent to  $V_2$  (i.e., *chū* ‘exit’), while  $V_2$  and  $V_3$  (i.e., *lái* ‘come’) are divided by an NP argument, *yī běn shū* ‘a book’. The transitive  $V_1$  takes *tā* ‘he’ and *yī běn shū* ‘a book’ as its arguments. The first NP arguments of intransitive  $V_2$  and  $V_3$  are identical to the second NP argument of  $V_1$ . This is the first time that the NP<sub>obj</sub> has appeared in this context, so it is coded as an indefinite form indicating its unidentifiable state.

- (21) NP<sub>subj</sub>+ $V_1$ + $V_2$ +NP<sub>obj</sub>+ $V_3$  (Type II DVCs with three verbs)  
Měiguó dàxué jiāoshòu shuō xiàohuà yǐn xuéshēng fāxiào, yǐ chéngwéi  
shíshàng, hǎoxiàng bù zhèyàng zuò, jiù bù shòu xuéshēng huānyíng sī de.  
Ránhòu tā ná chū yī běn shū lái, niàn le xià biān zhè duàn wénzì.  
(United Daily News, July 1974)

‘It has become fashionable for American university professors to tell jokes to make students laugh. Then he took out a book and read the following passage.’

- Tā ná chū yī běn shū lái.  
3SG take exit one CL book come  
‘He took out a book.’

As shown in (22a) and (22b), the incompatibility of the in-adverbial (i.e., *yī xiǎoshí nèi* ‘in one hour’) and the compatibility with the imperfective aspect marker (i.e., *zhèng*) indicates this DVC’s atelic interpretation. It is noted that the combination of  $V_1$  (i.e., *ná* ‘take’) and  $V_2$  (i.e., *chū* ‘exit’) originally identified as RVC conveys a resultative interpretation. However, adding  $V_3$  (i.e., *lái* ‘come’) to the non-adjacent order diminishes the telic interpretation. Substituting the NP argument *yī běn shū* ‘a book’ with a definite form leads to ungrammaticality, as shown in (22c). The shared NP<sub>obj</sub> is related to some more identifiable referent, that is, *jiāoshòu* ‘professor’ and *xiàohuà* ‘students’, in the mentioned context, so that it can be identified as a brand-new anchored referent following Van Valin & LaPolla (1997). Regarding the focus structure, this sentence pattern is incompatible with the pseudo-cleft construction, as shown in (22d), while it is compatible with the cleft construction shown in (22e), illustrating that it involves broad focus.

- (22) a. \*Tā yī xiǎoshí nèi ná chū yī běn shū lái.  
3SG one hour in take exit one CL book come  
b. Tā zhèng ná chū yī běn shū lái.  
3SG PROGR take exit one CL book come  
‘He is taking out a book.’

- c. \*Tā ná chū zhè běn shū lái.  
3SG take exit this CL book come
- d. \*Tā ná chū de shì yī běn shū lái.  
3SG take exit DE COP one CL book come
- e. Tā shì ná chū yī běn shū lái.  
3SG COP take exit one CL book come  
'As for him, it is true that he took out a book.'

An example of Type III DVCs is given in (23).  $V_1$  (i.e., *ná* 'take') and  $V_2$  (i.e., *guò* 'pass') are divided by an NP argument, while  $V_2$  and  $V_3$  (i.e., *lái* 'come') are directly adjacent. The transitive  $V_1$  takes *lǎoshī* 'teacher' and *yī dié fāpiào* 'a stack of invoices' as arguments. The first argument of intransitive  $V_2$  and  $V_3$  shares the second NP argument of  $V_1$ .

- (23) NP<sub>subj</sub>+ $V_1$ +NP<sub>obj</sub>+ $V_2$ + $V_3$  (Type III DVCs with three verbs)  
Yòng cān hòu de lǎoshī, zé shéntàizìrú de yīyī di shōuqǔ tóngxué men de fāpiào, ér háizi men zé yīn chájué lǎoshī de jǔdòng, rèzhōng di yīzài páidui gòumǎi dōngxī, bìng kuàisù sòng dào lǎoshī shǒu lí. Mò liǎo, lǎoshī ná yī dié fāpiào guò lái, gào sù fúwùyuán, "Zhè gè fāpiào yìn bù qīngchǔ, bāng wǒ gài yī xià."  
(United Daily News, July 1993)

'After the meal, the teacher collected the invoices from the students one by one with ease. The children, who noticed the teacher's behavior, eagerly queued up to buy things and quickly delivered invoices to the teacher. In the end, the teacher came over with a stack of invoices and told the waiter, 'These invoices were not printed clearly, so please help me stamp them.'

Lǎoshī ná yī dié fāpiào guò lái.  
Teacher take one CL invoice pass come  
'The teacher brought a stack of invoices.'

After examining of (24a) and (24b), the incompatibility of the in-adverbial (i.e., *yī xiǎoshí nèi* 'in one hour') and the compatibility with the imperfective aspect marker (i.e., *zhèng*) show the DVC's atelic interpretation. As for the shared NP<sub>obj</sub>, replacing the indefinite form with a definite referent (i.e., *nà dié fāpiào* 'that stack of invoices'), is also grammatical, as shown in (24c). In the context given in (23), the NP<sub>obj</sub> is a textually accessible referent because the referent *fāpiào* 'invoice' has been mentioned in the previous context. Concerning the focus domain, this sentence pattern is incompatible with the pseudo-cleft construction, as shown in (24d). At the same time, it is compatible with the cleft construction in (24e), showing that it involves broad focus.

- (24) a. \*Lǎoshī yī xiǎoshí nài ná yī dié fāpiào guò lái.  
Teacher one hour in take one CL invoice pass come  
Teacher take one hour in take one CL invoice pass come  
‘The teacher is coming with a stack of invoices.’
- b. Lǎoshī zhèng ná yī dié fāpiào guò lái.  
Teacher PROGR take one CL invoice pass come  
‘The teacher is coming with a stack of invoices.’
- c. Lǎoshī ná nà dié fāpiào guò lái.  
Teacher take that CL invoice pass come  
‘The teacher is bringing the stack of invoices.’
- d. \*Lǎoshī ná de shì yī dié fāpiào guò lái.  
Teacher take DE COP one CL invoices pass come  
Teacher take DE COP one CL invoices pass come
- e. Lǎoshī shì ná yī dié fāpiào guò lái.  
Teacher COP take one CL invoices pass come  
‘As for the teacher, it is true that she brought a stack of invoices.’

Type IV refers to a DVC with three verbs applied to the *bǎ*-construction. As the DVC shows in (25),  $V_1$  (i.e., *ná* ‘take’),  $V_2$  (i.e., *chū* ‘out’), and  $V_3$  (i.e., *lái* ‘come’) are in an adjacent order. The transitive  $V_1$  takes *qī* ‘wife’ and *nà fēng xìn* ‘that letter’ as its arguments, and the second argument is proposed to follow the word *bǎ*.

- (25) NP<sub>subj</sub>+ *bǎ*-NP<sub>obj</sub>+ $V_1$ + $V_2$ + $V_3$  (Type IV DVCs with three verbs)  
Tā wèn tā yǒu shíme shì, tā shuō, “Yīdiǎn xiǎo shì, wǒ gěi lǎowáng liú fēng xìn ba!” Qī shuō zhe biàn bǎ nà fēng xìn ná chū lái, jiāo gěi wǒ. Kàn le nà fēng xìn, wǒ biàn yīqiè huǎngrán le. (United Daily News, Nov. 1951)

‘She asked him, “What’s wrong?” He said, “It’s no big deal. I’ll leave a letter for Mr. Wang.” Then, she took out the letter and gave it to me. When I read it, I was stunned.’

Qī bǎ nà fēng xìn ná chū lái.  
wife BA that CL letter take exit come  
‘The wife took out that letter.’

The sentences in (26a) and (26b) show that the DVC allows telic interpretation. The first argument of intransitive  $V_2$  and  $V_3$  is identical to the second argument of  $V_1$ . The argument is encoded as a definite form because it has already been mentioned and currently serves as the topic. Thus, the DVC is incompatible with the indefinite internal argument, conforming with the syntactic regulation of the *bǎ*-construction, as illustrated in (26c). The focus domain of the *bǎ*-construction is the narrow focus, with the actual focus domain only covering a verb complex unit (i.e.,  $V_1V_2V_3$ ).

- (26) a. Qī yī xiǎoshí nèi bǎ nà fēng xìn ná chū lái.  
 wife one hour in BA that CL letter take exit come  
 ‘The wife took out that letter within an hour.’
- b. \*Qī zhèng bǎ nà fēng xìn ná chū lái.  
 wife PROGR BA that CL letter take exit come
- c. \*Qī bǎ yī fēng xìn ná chū lái.  
 wife BA one CL letter take exit come

After an examination of the four types of DVCs with three verbs, the findings are summarized in Table 5. Type I and Type IV involving an adjacent order of verbs give rise to a telic interpretation, while Type II and Type III involving a non-adjacent order have an atelic interpretation. This result confirms the observation of Paul (2022). Regarding the focus domain, Type I and Type IV involve narrow focus, while Type II and Type III involve broad focus. The focus structure is signified by brackets, as shown in Table 5. As for the NP<sub>obj</sub>, both Type I and II can take an NP argument as an unidentifiable referent (i.e., brand-new anchored or brand-new anchored). Type III allows a referent in an inactive state or textually accessible state; thus, it can be encoded as either definite or indefinite. Finally, Type IV following the *bǎ*-construction regulation can only take a referent in an active or accessible state as its NP<sub>obj</sub>.

**Table 5.** DVCs with three verbs and their associated pragmatic factors

Type	Surface form	Telicity	Focus domain	Activation state of NP <sub>obj</sub>
Type I	NP <sub>subj</sub> +V <sub>1</sub> +V <sub>2</sub> +V <sub>3</sub> +NP <sub>obj</sub>	telic	narrow focus NP <sub>subj</sub> +V <sub>1</sub> +V <sub>2</sub> +V <sub>3</sub> + [NP <sub>obj</sub> ]	Brand-new unanchored, Brand-new anchored
Type II	NP <sub>subj</sub> +V <sub>1</sub> +V <sub>2</sub> +NP <sub>obj</sub> +V <sub>3</sub>	atelic	broad focus NP <sub>subj</sub> + [V <sub>1</sub> +V <sub>2</sub> + NP <sub>obj</sub> +V <sub>3</sub> ]	Brand-new unanchored, Brand-new anchored
Type III	NP <sub>subj</sub> +V <sub>1</sub> +NP <sub>obj</sub> +V <sub>2</sub> +V <sub>3</sub>	atelic	broad focus NP <sub>subj</sub> + [V <sub>1</sub> +NP <sub>obj</sub> +V <sub>2</sub> +V <sub>3</sub> ]	Inactive, Accessible
Type IV	NP <sub>subj</sub> + <i>bǎ</i> -NP <sub>obj</sub> +V <sub>1</sub> +V <sub>2</sub> +V <sub>3</sub>	telic	narrow focus NP <sub>subj</sub> + <i>bǎ</i> -NP <sub>obj</sub> + [V <sub>1</sub> +V <sub>2</sub> +V <sub>3</sub> ]	Accessible, Active



## 4. The linking of arguments in DVCs to syntax

### 4.1 The linking system for DVCs

Following RRG, there are four steps linking semantic representation to syntactic representation: (a) to determine the layered structure; (b) to construct the semantic structure; (c) to determine the semantic macrorole of arguments, based on the Actor-Undergoer Hierarchy, and (d) to link the arguments into syntax according to the linking principles. Although the aspect marker *le* is optional in some DVCs, its occurrence is a critical indicator of the layered structure of the sentence. As shown in (27), *le* may occur following a string of adjacent verbs (i.e., *ná lái* ‘bring’), e.g., (27a) and (27c), after a displacement verb (i.e., *ná* ‘take’) or deictic verb (i.e., *lái* ‘come’) when they occur alone, e.g., (27b), but not between adjacent verbs, e.g., (27a) and (27c).

(27) The distribution of the aspect marker *le* in DVC with two verbs

- a. Tā ná (\*le) lái (le) yī běn shū.  
3SG take PERF come PERF one CL book.  
‘He brought a book.’
- b. Tā ná (le) yī běn shū lái (le).  
3SG take PERF one CL book come PERF  
‘He brought a book.’
- c. Tā bǎ nà běn shū ná (\*le) lái (le).  
3SG BA that CL book take PERF come PERF  
‘He brought a book.’

As shown in (28), the aspect marker *le* may occur following a string of adjacent verbs (i.e., *ná chū lái* ‘took out’ in (28a) and (28d), *ná chū* ‘took out’ in (28b), and *chū lái* ‘come out’ in (28c)), after a displacement verb (i.e., *ná* ‘take’) or deictic verb (i.e., *lái* ‘come’) when they occur alone, e.g., (28b), but not between adjacent verbs.

(28) The distribution of the aspect marker *le* in DVC with three verbs

- a. Tā ná (\*le) chū (\*le) lái (le) yī běn shū.  
3SG take PERF exit PERF come PERF one CL book  
‘He took out a book.’
- b. Tā ná (\*le) chū (le) yī běn shū lái (le).  
3SG take PERF exit PERF one CL book come PERF  
‘He took out a book.’
- c. Tā ná (le) yī běn shū chū (\*le) lái (le).  
3SG take PERF one CL book exit PERF come PERF  
‘He took out a book.’

- d. Tā bǎ nà běn shū ná (\*le) chū (\*le) lái (le).  
 3SG BA that CL book take PERF exit PERF come PERF  
 ‘He took out that book.’

In brief, when two or three verbs are adjacent, *le* can only occur at the end of the sequence. The two or three adjacent verbs constitute a nuclear juncture to form a single complex nucleus. The aspect marker *le* scopes to the left and functions as a nuclear operator to modify the preceding nuclear juncture; thus, the Chinese DVCs discussed in this study are analyzed as a nuclear cosubordination.

Different word orders of verbs within DVCs may lead to different interpretations. This study has confirmed that an adjacent order of verbs within a DVC denotes telic interpretation, while a non-adjacent order denotes atelic interpretation. In light of such classification, semantic structures of DVCs are proposed, as given in (29) and (30).

- (29) the semantic structures of atelic DVCs  
 do' (x, [predicate<sub>1</sub>' ^ predicate<sub>2</sub>' (^ predicate<sub>3</sub>') (x, y)])
- (30) the semantic structures of telic DVCs  
 do' (x, [predicate<sub>1</sub>' ^ predicate<sub>2</sub>' (^ predicate<sub>3</sub>') (x, y)]) & [BECOME be-at'(z, y)]

Based on the surface forms of Mandarin DVCs, two constructional templates for Mandarin DVCs are summarized in (31) and (32). In (31), the constructional template for DVCs with two verbs allows three positions for linking the NP<sub>obj</sub>, which are (a) the position immediately following *bǎ*, (b) the position immediately following V<sub>1</sub>, and (c) the position immediately following V<sub>2</sub>. The template shown in (32) is the construction for DVCs with three verbs, showing that there are four positions for linking the NP<sub>obj</sub>, which are (a) the position immediately following *bǎ*, (b) the position following V<sub>1</sub>, (c) the position immediately following V<sub>2</sub>, and (d) the position following V<sub>3</sub>. The word *bǎ* is marked with parentheses because it only appears when the NP<sub>obj</sub> occurs in the position immediately before V<sub>1</sub>.

- (31) constructional template for Mandarin DVCs with two verbs  
 PSA (bǎ)+ NP<sub>obj</sub> V<sub>1</sub> NP<sub>obj</sub> V<sub>2</sub> NP<sub>obj</sub>
- (32) constructional template for Mandarin DVCs with three verbs  
 PSA (bǎ)+ NP<sub>obj</sub> V<sub>1</sub> NP<sub>obj</sub> V<sub>2</sub> NP<sub>obj</sub> V<sub>3</sub> NP<sub>obj</sub>

This study proposes that the activation state of a referent and the focus domain of a DVC determines how the NP<sub>obj</sub> is linked to the syntactic positions. Based on the topicality acceptability scale (Van Valin & LaPolla 1997: 204), an NP at the leftward edge of this scale is highly activated and tends to be linked to the

leftward edge of the NP<sub>obj</sub> position in the DVCs' constructional template. In contrast, an NP at the rightward edge of this scale is less accessible and tends to be linked to the rightward edge of the NP<sub>obj</sub> position in the DVC constructional template. The correlation of activation states and the syntactic position of NP<sub>obj</sub> are summarized in Figure 5.

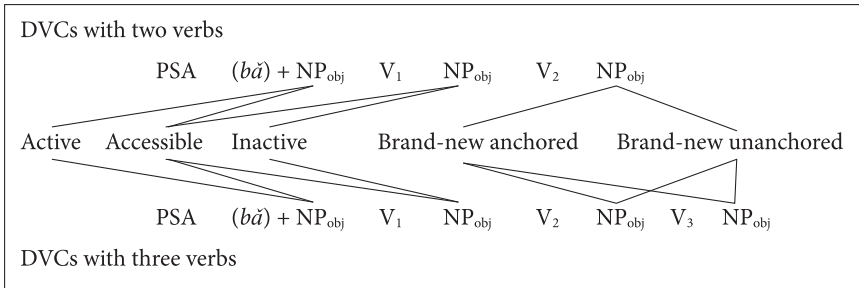


Figure 5. The correlation of activation states and the syntactic position of NP<sub>obj</sub>

In DVCs with two verbs, when an NP<sub>obj</sub> is unidentifiable (i.e., brand-new unanchored or brand-new anchored), it is linked to the position immediately following V<sub>2</sub>. When an NP<sub>obj</sub> is identifiable (i.e., inactive or accessible), it is linked to the position between V<sub>1</sub> and V<sub>2</sub>. When an NP<sub>obj</sub> is highly activated (i.e., active), it is linked to the position following the word *bǎ*. In DVCs with three verbs, when an NP<sub>obj</sub> is unidentifiable (i.e., brand-new unanchored or brand-new anchored), it is linked to the position immediately following V<sub>3</sub> or lies between V<sub>2</sub> and V<sub>3</sub>. When an NP<sub>obj</sub> is identifiable (i.e., inactive or accessible), it is linked to the position between V<sub>1</sub> and V<sub>2</sub>. When an NP<sub>obj</sub> is highly activated by serving the current topic, it is linked to the position following the word *bǎ*. The linking algorithm proposed in (33) accounts for how the arguments in Mandarin DVCs are linked to syntax. Additionally, the linking system for DVCs in Mandarin is proposed in (34).

(33) The linking principles for Mandarin DVCs

Principle A: The Actor is linked to the PSA position.

Principle B: If the Undergoer is highly activated and is serving as the current topic, it is linked to the position immediately following the word *bǎ*.

Principle C: If the Undergoer is unidentifiable (i.e., brand-new unanchored and brand-new anchored), it is linked to the rightward edge NP<sub>obj</sub> position in the constructional template. That is, the posi-

tion following  $V_2$  in DVCs with two verbs, or the position following  $V_3$  or that between  $V_2$  and  $V_3$  in DVCs with three verbs.

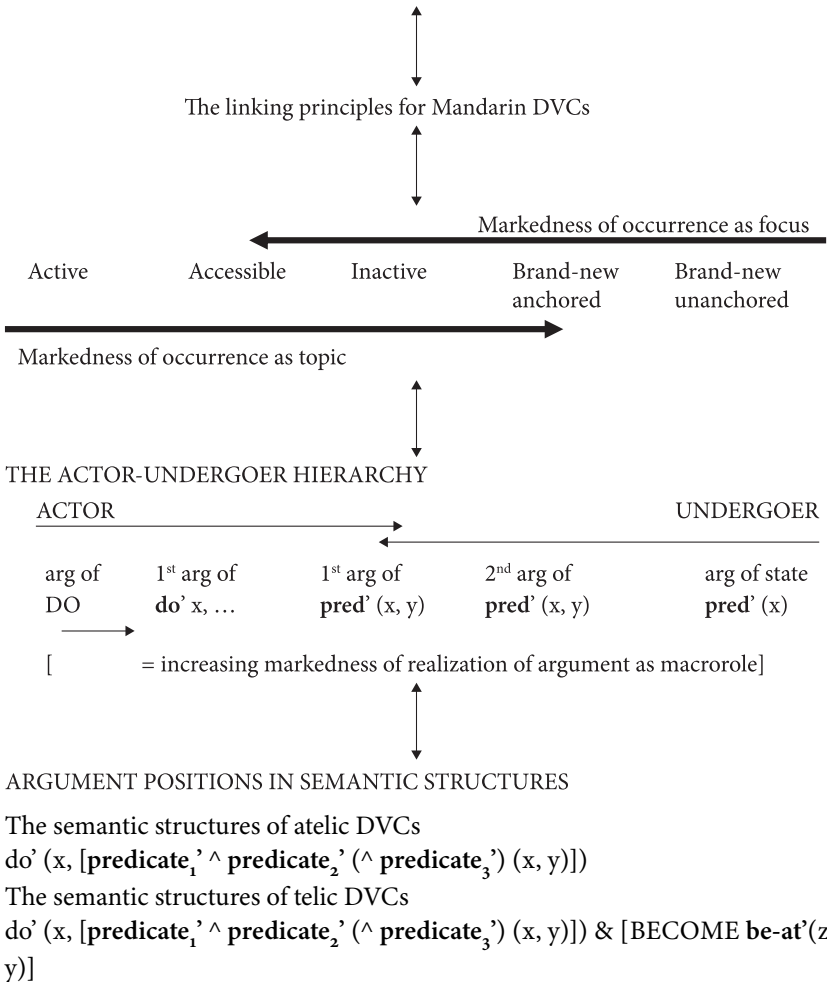
Principle D: If the Undergoer is identifiable (i.e., inactive and accessible), it is linked to the position between  $V_1$  and  $V_2$ .

(34) The linking system for DVCs

CONSTRUCTIONAL TEMPLATE

DVCs with two verbs: PSA (bā) + NP<sub>obj</sub> V<sub>1</sub> NP<sub>obj</sub> V<sub>2</sub> NP<sub>obj</sub>

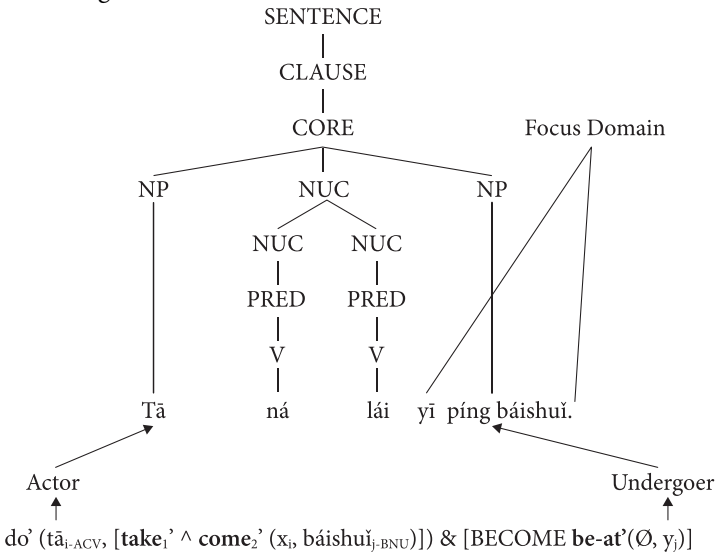
DVCs with three verbs: PSA (bā) + NP<sub>obj</sub> V<sub>1</sub> NP<sub>obj</sub> V<sub>2</sub> NP<sub>obj</sub> V<sub>3</sub> NP<sub>obj</sub>



#### 4.2 The linking of DVCs with two verbs

Type I DVCs with two verbs as shown in (35) are composed of two verbs, in this case  $V_1$  (i.e., *ná* ‘take’) and  $V_2$  (i.e., *lái* ‘come’). As for the syntactic representation,  $V_1$  and  $V_2$  formulate a nuclear juncture; that is, the two nuclei constitute a complex nucleus and take a single set of NP arguments to form the core. The layered structure involves the narrow focus. For the operator projection please refer to the operator structure shown in (10). Second, the semantic structure of the DVC is constructed, and the variables of the semantic structure are replaced with NPs. All NPs are marked with activation states, that is,  $t\bar{a}_{ACV}$  and  $b\acute{a}ishu\check{i}_{BNU}$ . Following the Actor-Undergoer Hierarchy, each NP argument is assigned a macrorole. According to the linking Principle A, Actor (i.e.,  $t\bar{a}$ ) is by default linked to the PSA position. Following Principle C, Undergoer (i.e.,  $b\acute{a}ishu\check{i}$ ) is linked to the position following  $V_2$  and is represented as an indefinite form.

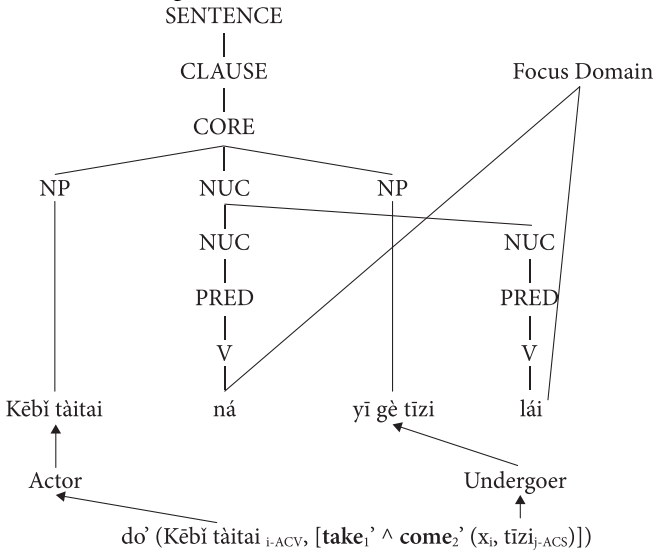
- (35) *Tā ná lái yī píng b\acute{a}ishu\check{i}.* (excerpted from (13))  
 3SG take come one CL water  
 ‘He brought a bottle of water.’



Type II DVCs with two verbs are exemplified in (36). The DVC is composed of two verbs, that is,  $V_1$  (i.e., *ná* ‘take’) and  $V_2$  (i.e., *lái* ‘come’), and the second NP argument of  $V_1$  and the first NP argument of  $V_2$  refer to the same referent. Regarding syntactic presentation, the nuclear juncture is formed due to the purposive relation of  $V_1$  and  $V_2$  and takes NP arguments to form a core. Note that RRG allows cross branches in syntactic representation (Van Valin 2005).

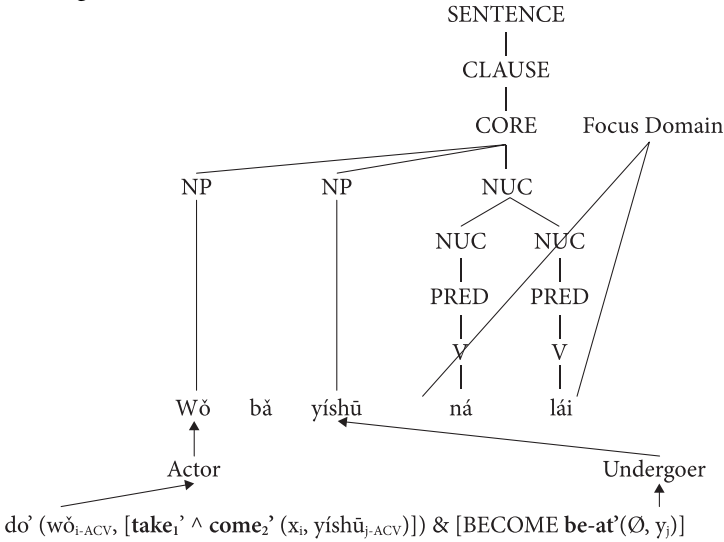
The focus domain of this construction covers the predicate part. The semantic structure of the DVC is constructed based on its atelic interpretation. The variables of the semantic structure are replaced with NPs marked by activation states, that is, *kēbǐ tàitai*<sub>ACV</sub> and *tīzi*<sub>ACS</sub>. Following the Actor-Undergoer Hierarchy, each NP argument is assigned a macrorole. Following Principle A, Actor (i.e., *kēbǐ tàitai*) is by default linked to the PSA position. Undergoer (i.e., *tīzi* ‘ladder’) is linked to the position between V<sub>1</sub> and V<sub>2</sub> according to Principle D.

- (36) *Kēbǐ tàitai nà yī gè tīzi lái.* (excerpted from (15))  
 Kēbi madam take one CL ladder come  
 ‘Mrs. Kēbi brought a ladder.’



Type III DVCs with two verbs are shown in (37). As for syntactic representation, the two verbs with a causative relation constitute a nucleus juncture which takes a set of NP arguments to form a core. The semantic structure is constructed based on its telic interpretation of the DVC. Then, each NP argument is assigned a macrorole according to the Actor-Undergoer Hierarchy. As for linking, Actor (i.e., *tā*) is linked to the PSA position according to Principle A, and Undergoer (i.e., *yíshū* ‘suicide note’) is linked to the position immediately following the word *bǎ*, following Principle B. The Undergoer serves as the topic in the current context, having a highly activated state.

(37) Wǒ bǎ yíshū ná lái. (excerpted from (17))  
 I BA suicide.note take come  
 'I brought the suicide note.'

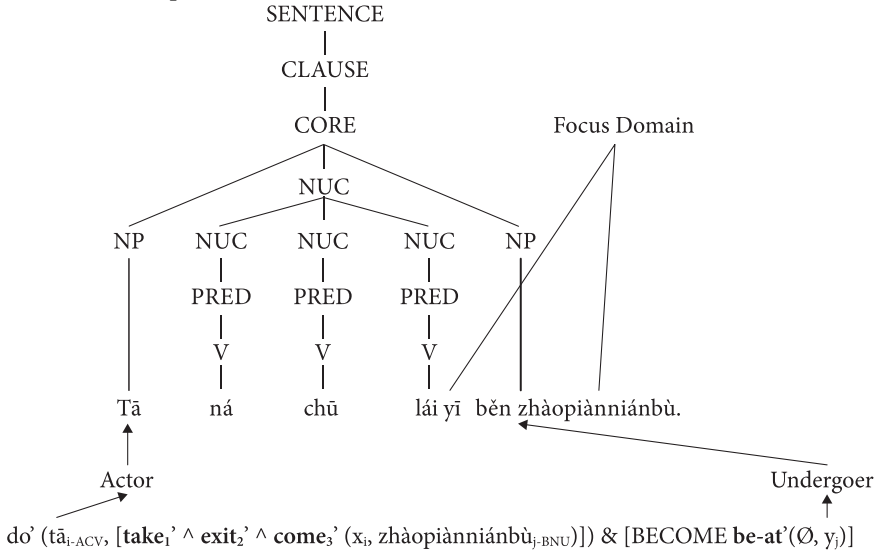


In this section, three types of DVC with two verbs have been explored. This study shows that different types of DVC with two verbs may lead to different semantic structures and syntactic layered structures. It has also been proved that different activation states of the shared NP<sub>obj</sub> determine the syntactic position in which it occurs.

### 4.3 DVCs with three verbs

This section discusses the four types of DVC with three verbs. Type I DVCs with three verbs are exemplified in (38). This DVC is composed of three verbs in adjacent order leading to a telic interpretation. Regarding the syntactic representation, these three verbs formulate a complex nucleus juncture due to their causative relation. The semantic structure is constructed based on its telic interpretation of the DVC. The variables of the semantic structure are replaced with NPs marked by activation states, that is, *tā*<sub>ACV</sub> and *zhàopiànniánbù*<sub>BNU</sub>. Then, each NP argument is assigned a macrorole according to the Actor-Undergoer Hierarchy. As for the linking, Actor (i.e., *tā* 'he') is linked to the PSA position according to Principle A, and Undergoer (i.e., *zhàopiànniánbù* 'photo album') is linked to the position immediately following V<sub>3</sub> according to Principle C.

(38) Tā ná chū lái yī běn zhàopiànniánbù. (excerpted from (19))  
 3SG take exit come one CL photo.album  
 ‘She took out a photo album.’

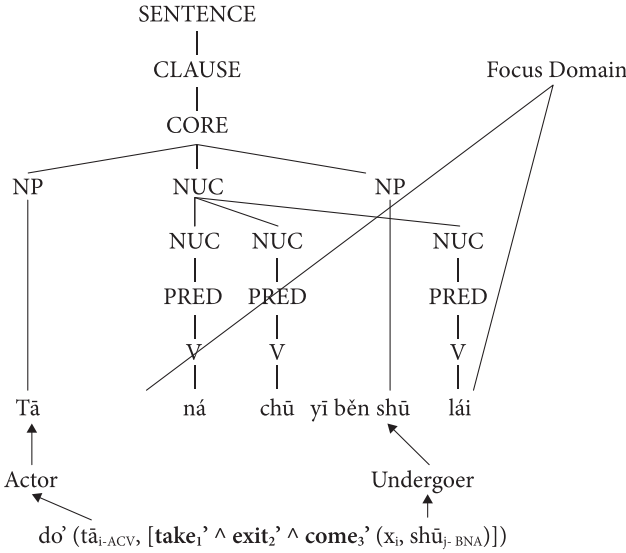


Type II DVCs with three verbs are exemplified in (39), in which  $V_1$  (i.e., *ná* ‘take’) is adjacent to  $V_2$  (i.e., *chū* ‘exit’), while  $V_2$  (i.e., *chū* ‘exit’) and  $V_3$  (i.e., *lái* ‘come’) are divided by an NP<sub>obj</sub> (i.e., *yī běn shū* ‘a book’). The semantic structure is constructed based on its atelic interpretation. The NPs are marked with activation states. The referent *shū* ‘book’ is analyzed as a brand-new anchored state because it is mentioned for the first time in the context and is anchored to some more identifiable referent, that is, *dàxué* ‘university’, *jiāoshòu* ‘professor’ and *xuéshēng* ‘students’, as shown in (21).

Then, NP arguments are assigned a macrorole according to the Actor-Undergoer Hierarchy. As for linking, Actor (i.e., *tā*) is linked to the PSA position according to Principle A. According to Principle C, the Undergoer (i.e., *shū* ‘book’) is linked to the position between  $V_2$  and  $V_3$  and is syntactically encoded as an indefinite form.



- (39) Tā ná chū yī běn shū lái. (excerpted from (21))  
 3SG take exit one CL book come  
 ‘He took out a book.’

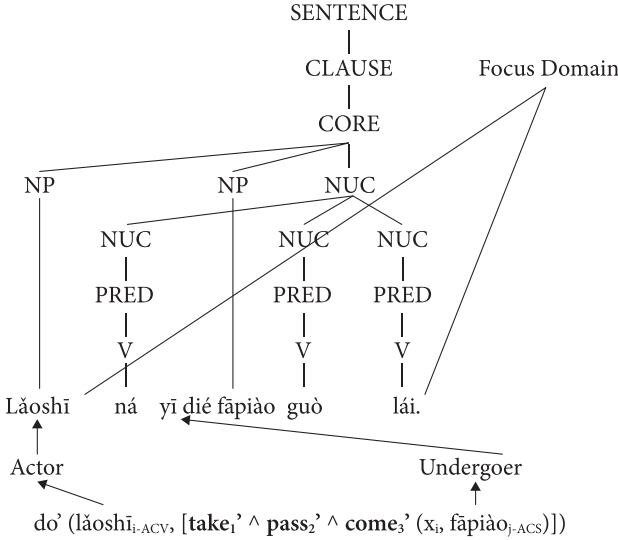


Type III DVCs with three verbs are shown in (40), in which  $V_1$  (i.e., *ná* ‘take’) and  $V_2$  (i.e., *guò* ‘pass’) are divided by an NP argument, and  $V_2$  and  $V_3$  (i.e., *lái* ‘come’) occur in adjacent order. As discussed in Section 3, Type III DVCs denote atelic interpretation. Thus, the semantic structure of the DVCs is constructed as in (40). The referent *fāpiào* ‘invoice’ has been mentioned in the previous context, as shown in (23), but it is not the current topic of description. Thus, it is identified as a textually accessible referent. As for the syntactic representation,  $V_1$ ,  $V_2$  and  $V_3$  formulate a complex nucleus juncture and take the NP arguments to formulate a core.

The NP arguments are assigned a macrorole according to the Actor-Undergoer Hierarchy. As for the linking, Actor (i.e., *lǎoshī* ‘teacher’) is linked to the PSA position according to Principle A. The Undergoer (i.e., *fāpiào* ‘invoice’) is linked to the position between  $V_1$  and  $V_2$  according to Principle D. The textually accessible Undergoer is syntactically encoded as an indefinite form.

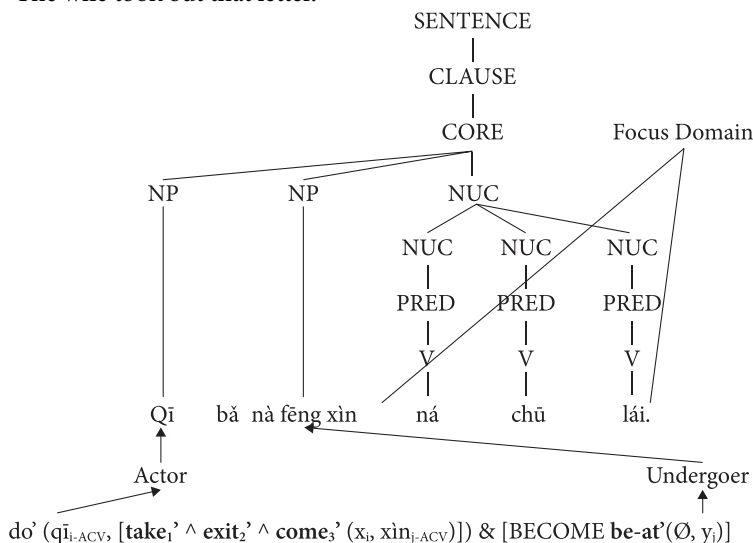
- (40) Lǎoshī ná yī dié fāpiào guò lái.  
 Teacher take one CL invoice pass come  
 ‘The teacher brought a stack of invoices.’

(excerpted from (23))



Type IV DVCs with three verbs are shown in (41). The three verbs are in adjacent word order. As for syntactic representation, the three verbs with causative relation constitute a nucleus juncture taking a single set of NP arguments to form a core. Each NP argument is assigned a macrorole according to the Actor-Undergoer Hierarchy. The Undergoer (i.e., *xìn* ‘letter’) serves as a current topic of context, having a highly activated state. As for the linking argument to syntax, the Actor (i.e., *qī* ‘wife’) is linked to the PSA position according to Principle A. The Undergoer (i.e., *xìn* ‘letter’) is linked to the position immediately following *bǎ* following Principle B.

- (41) Qī bǎ nà fēng xìn nà chū lái.  
 wife BA that CL letter take exit come  
 ‘The wife took out that letter.’



This section has systematically demonstrated how linking algorithms capture the word order alternation in DVCs with two verbs and DVCs with three verbs. This study proposes that pragmatic states (i.e., active, accessible, inactive, brand-new anchored, and brand-new unanchored) and pragmatic relations (i.e., narrow focus and broad focus) play a significant role in determining the variation of DVCs. This finding echoes LaPolla's (1995) viewpoint that pragmatic relations are the main determinants of word order in Chinese.

## 5. Conclusion




This study has accounted for complex word order patterns in Mandarin DVCs in terms of the linking algorithm in RRG. It has been shown that different DVC word orders are associated with different semantic interpretations (i.e., telic or atelic) and different focus structures (i.e., narrow or broad). This finding indicates that the activation state of the shared internal NP<sub>obj</sub> plays a role in determining how the argument is linked to different syntactic positions. The correlation of activation states and the syntactic position of NP<sub>obj</sub> is proposed; that is, a highly activated NP<sub>obj</sub> tends to be linked to the position following the word *bǎ* or immediately following V<sub>1</sub>. In contrast, a least activated NP<sub>obj</sub> tends to be linked to the

position immediately following  $V_2$  or  $V_3$ . These findings reveal exciting facts about Mandarin DVCs in terms of the syntax-pragmatics interface.

### List of abbreviations

1	first person	INGR	ingressive
3	third person	NP	noun phrase
ACS	accessible	NUC	nucleus
ACV	active	PERF	perfect
arg	argument	PRED	predicate
ASP	aspect	PROGR	progressive
BNA	brand-new anchored	PSA	privileged syntactic argument
BNU	brand-new unanchored	SEML	semelfactive
CL	classifier	subj	subject
COP	copula	SG	singular
DIR	directional	obj	object
INA	inactive	v	verb


### References

-  Chafe, Wallace. 1987. Cognitive constraints on information flow. *Coherence and Grounding in Discourse*, ed. by Russell S. Tomlin, 21–51. Amsterdam: John Benjamins.
- Chang, Jung-hsing. 2001. The Syntax of Event Structure in Chinese. Doctoral dissertation, University of Hawaii at Mānoa, Honolulu.
- Chang, Jung-hsing. 2007. Linking semantics and syntax in Mandarin serial verbs: A Role and Reference Grammar account. *Language and Linguistics* 8.1:235–266.
- Chen, Yi-jing. 2010. Metonymy and Cross-reference Anaphora in the Chinese *Ba*-construction. MA thesis, National Chung Cheng University, Chiayi.
- Chen, Zhishuang. 2015. The word order of the directional serial verb construction in Mandarin Chinese. *Proceedings of The Second Asian and European Linguistic Conference*, ed. by Alison Biggs, Man Li, Aiqing Wang and Cong Zhang, 1–16. UK: Newcastle University.
- Chen, Zhishuang. 2016. Mandarin Directional Serial Verb Constructions: A Constructionist Approach. Doctoral dissertation, University of York, UK.
- Collins, Chris. 1997. Argument sharing in serial verb constructions. *Linguistic Inquiry* 28.3:461–497.
-  Cui, Songren, and Kuo-ming Sung. 2022. *A Reference Grammar for Teaching Chinese: Syntax and Discourse*. Singapore: Springer Nature Singapore.
-  Gundel, Jeanette K. 1988. Universals of topic-comment structure. *Studies in Syntactic Typology* 17.1:209–239.
- Guo, Chun-gui. 2003. More on the position of the compound directional complement and its non-locative object. *Shijie Hanyu Jiaoxue* 3:37–45.

- Hansell, Mark. 1993. Serial verbs and complement constructions in Mandarin: A clause linkage analysis. *Advances in Role and Reference Grammar*, ed. by Robert D. Van Valin, 197–233. Amsterdam & Philadelphia: John Benjamins.
- doi** Hole, Daniel. 2011. The deconstruction of Chinese *shì*... *de* clefts revisited. *Lingua* 121.11:1707–1733.
- Kimura, Hideki. 1984. On two functions of the directional complements *lái* and *qù* in Mandarin. *Journal of Chinese Linguistics* 12.2:262–297.
- Lamarre, Christine. 2003. How does Chinese encode motion events?—And a few issues connected with the so-called “directional complements”. *Contemporary Research in Modern Chinese* 5:1–18.
- doi** Lambrecht, Knud. 1994. *Information Structure and Sentence Form*. New York & Cambridge: Cambridge University Press.
- doi** LaPolla, Randy J. 1995. Pragmatic relations and word order in Chinese. *Word Order in Discourse* 30:297–329.
- Li, Charles N., and Sandra A. Thompson. 1981. *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: University of California Press.
- Liu, Yuehua. 1998. *Quxiang Buyu Tongshi* [A Complete Illustration of Chinese Directional Complements]. Beijing: Beijing Language and Culture University Press.
- Liu, Yuehua, Wenyu Pan, and Wei Gu. 2001. *Shiyong Xiandai Hanyu Yufa* [A Practical Grammar of Spoken Chinese]. Beijing: Shangwu Yinshuguan.
- Lu, Hsiao-tung. 1977. Resultative verb compounds vs. directional verb compounds in Mandarin. *Journal of Chinese Linguistics* 5.2:276–313.
- Lu, Jian-ming. 2002. Dongci hou quxiang buyu he binyu de weizhi wenti [Concerning the postverbal complement of direction and the position of the object]. *Shijie Hanyu Jiaoxue* 1:5–17.
- Nolan, Brian. 2012. *The Structure of Modern Irish*. Sheffield: Equinox.
- doi** Paul, Waltraud. 2022. SVCs in disguise: The so-called “directional verb compounds” in Mandarin Chinese. *New Explorations in Chinese Theoretical Syntax: Studies in Honor of Yen-Hui Audrey Li*, ed. by Andrew Simpson, 133–162. Amsterdam: John Benjamins.
- Prince, Ellen F. 1981. Toward a taxonomy of given-new information. *Radical Pragmatics*, ed. by Peter Cole, 223–255. New York & London: Academic Press.
- Tai, James H.-Y. 2003. Cognitive relativism: Resultative construction in Chinese. *Language and Linguistics* 4.2:301–316.
- Teng, Shou-hsin. 1979. Remarks on cleft sentences in Chinese. *Journal of Chinese Linguistics* 7.1:101–114.
- Tsao, Feng-fu. 1987. A topic-comment approach to the *ba* construction. *Journal of Chinese Linguistics* 15.1:1–54.
- Tseng, Shu-chuan. 2010. Directional complements in Taiwan Mandarin natural speech. *Language and Linguistics* 11.3:469–501.
- doi** Van Valin, Robert D. 2005. *Exploring the Syntax-Semantics Interface*. Cambridge: Cambridge University Press.
- doi** Van Valin, Robert D., and Randy J. LaPolla. 1997. *Syntax: Structure, Meaning and Function*. Cambridge: Cambridge University Press.
- doi** Vendler, Zeno. 1967. *Linguistics in Philosophy*. Ithaca: Cornell University Press.

- Verkuyl, Henk J. 1996. *A Theory of Aspectuality: The Interaction between Temporal and Atemporal Structure*. Cambridge: Cambridge University Press.
- Wu, Joy. 2007. Introduction to role and reference grammar. *Language and Linguistics* 8.1:5–70.
- Zhan, Fangqiong, and Chaofen Sun. 2013. A copula analysis of *shì* in the Chinese cleft construction. *Language and Linguistics* 14.4:755–789.
- Zhang, Huili, Haifeng Duan, and Haihua Pan. 2017. Focus-stress principle and *ba* construction. *Language and Linguistics* 18.3:479–504.
- Zhu, Dexi. 1982. *Yufa Jiangan* [Handout on Grammar]. Beijing: Shangwu Yinshuguan.

## Address for correspondence

Chien-hung Lin  
International Graduate Program of Teaching Chinese as a Second Language  
Tunghai University  
Taichung, TAIWAN  
lngjhl@gmail.com  
 <https://orcid.org/0000-0002-1572-2482>

## Co-author information

Jung-hsing Chang  
Institute of Linguistics  
National Chung Cheng University  
Chiayi, TAIWAN  
lngjhc@ccu.edu.tw

## Publication history

Date received: 26 November 2022  
Date revised: 8 March 2023  
Date accepted: 4 July 2023