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How to Open the “Window of Attention” in Serial Verb Constructions

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Abstract

This paper investigates the manner in which path events are specified in Mandarin serial verb constructions (SVCs) and how such representations incorporate attentional processes, as reflected in Talmy's (1996, 2000) theory of Windowing of Attention. Here we focus on the verbs *lái* (come) and *qù* (go). The results show that: (1) *lái* and *qù* in SVCs mainly represent open path, followed by fictive path and closed path respectively; (2) *lái* or *qù* in Mandarin SVCs tends to adopt final path windowing. Final windowing accounts for 60.3% for SVCs with *lái* and 65.7% for SVCs with *qù*. This suggests that Mandarin SVC with *lái* or *qù* profiles the final part of the construction, and the information at the end is the key information. The present study offers a new account for the information distribution of SVCs and sheds light on the event segmentation of SVCs.

Keywords: Attention; Path Windowing; SVC; Cognitive Semantics

Introduction

Windowing of attention and path event frame

The notion of attention plays a key role in theories of cognitive linguistics, from frame semantics (Fillmore, 1982) and profiling (Langacker, 1987) to the specification of Figure and Ground (Talmy 2000a). Talmy (2000a, 2006, 2007, 2010) constructs a schematic system for attention in linguistics. This system establishes how one is to distribute one's attention over the structured scene or event from the selected perspective point. Different strengths of attention in this distribution can form a pattern. And patterns of different types underlie various conceptual categories within this schematic system, such as scope of attention, focus of attention, level of attention, and the windowing of attention (Talmy, 2006).

Languages can place a portion of a coherent referent situation into the foreground of attention by the explicit mention of that portion, while placing the remainder of that situation into the background of attention by omitting mention of it. Terminologically, the cognitive process at work here is called the windowing of attention, the coherent referent situation with respect to which the windowing must take place is an event frame, the portions that are foregrounded by inclusion are windowed, and the portions that are backgrounded by exclusion are gapped (Talmy, 1996; 2000a: 257).

As for the nature of windowing of attention, Talmy (2000a: 259) proposes that a referent scene which is sequential in nature or sequentialized conceptually can have a window of strongest attention placed over its beginning,

middle, or end portion, resulting in initial, medial, or final windowing. It is also possible that such a scene can have a particular portion without a window on it, backgrounded by the lack of sentence constituents referring to it, and accordingly may be said to have initial, medial, or final gapping. Therefore, we can profile different portions of a referent scene with different windowing patterns.

With regard to windowing of attention, Talmy (2000a) examines five generic types of events: event frame of motion, causal-chain event frame, cycle event frame, participant action event frame, interrelationship event frame. Specifically, event frame of motion is the most typical one because it has the most explicit perceptual structure (Ungerer & Schmid, 2008: 221).

In the motion event frame, path is the core schema which represents the relationship between Figure and Ground (Talmy 2000b). The so-conceived entirety of a path of motion is termed a path event frame, with respect to which the windowing process can be termed path windowing. This windowing process can be understood with respect to three different categories of paths, namely, open paths, closed paths, and fictive paths (Talmy, 2000a: 265). Regarding the nature of windowing of attention, it is apparent that when the path element of a motion event is emphasized, the entire path in space can be segmented as initial, medial, final part, and in linguistic expression, we do not have to window all the three parts of a path at the same time. Instead, we can foreground just one phase of path, while background the unimportant part of the path. With the context, the hearer may infer the gapped part of path.

Talmy's methodology for attention system is based on introspection. He realized that the findings resulting from introspection must be correlated with those resulting from other methodologies. Such other methodologies include the analysis of discourse and corpora, cross-linguistic and diachronic analysis, the assessment of context and of cultural structure, the observational and experimental techniques of psycholinguistics, the impairment studies of neuropsychology, and the instrumental probes of neuroscience (Talmy, 2000a: 5; Talmy, 2010: xix). In doing so, this paper adopts quantitative corpus method to address the phenomenon of windowing of attention in Mandarin serial verb construction (SVC) in order to justify Talmy's attention system. We first introduce the phenomenon of path windowing in Mandarin serial verb construction (SVC), then we focus on the verbs *lái* (come) and *qù* (go) in Mandarin SVCs and explore how they represent path and influence the patterns of path windowing in the usage-based data.

Mandarin serial verb construction and path windowing

A serial verb construction (SVC) is a sequence of verbs which act together as a single predicate, without any overt marker of coordination, subordination, or syntactic dependency of any other sort. Serial verb constructions are widespread in Creole languages, in the languages of West Africa, Southeast Asia, Amazonia, Oceania, and New Guineasort (Aikhenvald, 2006). It is widely acknowledged that Mandarin Chinese is a serializing language. For example:

- (1) 祥子拉着车走了。(The Rickshaw Boy)
Xiang zi pulled his car go away.
“Xiang zi pulled his car and go away.”

The structure of the above example can be segmented as “NP(Xiang zi 祥子) +VP1(pull his cart 拉着车)+ VP2(go away 走了)”. This serial verb construction can be conceptualized as a single event, as implied by its monoclausal status, as evidenced by its having the same intonational properties as a monoverbal clause, and the possession of just one tense, one aspect, and one polarity value. Furthermore, VP1 and VP2 share the same argument NP (Xiang zi 祥子); VP1 and VP2 each can occur on its own.

The SVC has a complex event meaning, which is composed of the meanings of the single VP components and the extra-lexical causal relation between the subevents (Müller & Lipenkova, 2009). As SVC entails rich motion event frame, path windowing provides a significant perspective in event representation and information construal of SVC. For example:

- (2) a. 我从南京 去北京 上大学。
I from Nanjing go to Beijing go to university.
“I go from Nanjing to Beijing to attend university.”
b. 我去北京 上大学。
I go to Beijing go to university.
“I go to Beijing to attend a university.”

The two SVCs in (2) are typical examples of open path event frame whose beginning point and ending point are at different locations in space(see Talmy, 2000a: 265). (2a) windows the beginning and ending portions of the path, while gapping the middle portion (that is, all the geographic territory traveled through between Nan Jing and Beijing is not mentioned). (2b) windows the ending portion of the path while gapping both the beginning and middle portions. (2b) parallels Talmy’s (2000a: 266) example of “The crate that was in the aircraft’s cargo bay fell into the ocean” -- which leaves unmentioned the fact that the crate also fell out of the plane and through the air. In both (2a) and (2b), *qù* “去” is a very important verb to profile the final part of the conceived path in space.

Research on Mandarin SVC has a history of over 50 years (e.g. Chao, 1968; Li & Thompson, 1981; Müller & Lipenkova, 2009; Paul, 2008). While the formal, structural and functional account of Chinese SVC is prosperous, the cognitive approach is somehow overlooked. Hence, the present study addresses Mandarin SVC from the perspective of windowing of attention so as to bring new insights to the semantic conceptualization of SVCs. The theoretical motivation of this study is to connect the observations about the semantic patterns of Mandarin SVCs to the information structure and, through this, link language structure to an attention-based infrastructure.

Research Questions

Resting on the interaction between SVC and path windowing, we propose two main research questions:

- 1) What is the distribution tendency regarding the pattern of open path, closed path, fictive path in SVCs?
- 2) What is the distribution property of different patterns of path windowing in SVCs?

Method

Scope of data

From a cross-linguistic point of view, Foley & Olson (1985) schematically ranked the verbs which are most and the least likely to occur in SVCs (from most serializable to least serializable verbs):

Basic motion verbs (e.g. ‘come’, ‘go’) < other active intransitive verbs (‘wander’, ‘crawl’, etc.) and posture verbs (‘sit’, ‘stand’, ‘lie’) < stative or process verbs < transitive verbs

Based on such scheme, we investigate the basic motion verbs *lái* “来”(come) and *qù* “去”(go) in Mandarin SVCs which represent motion event frame, and explore how they encode path event and impact path windowing in SVCs.

Regarding the data of motion event frame, Talmy (2000b: 27) has pointed out the usage of characteristic expression of Motion, that is: (1) it is colloquial in style; (2) it is frequent in occurrence in speech, rather than only occasional; (3) it is pervasive, rather than limited. Therefore, we target spoken data of SVCs which encode motion events as the quantitative sample.

Data collection and selection

SVCs were obtained from the CCL Corpus (built by Center for Chinese Linguistics Peking University). As one of the largest Chinese corpora, CCL consists of both written and spoken data. The spoken sub-corpus largely contains naturally occurred data from opera, play, drama, etc. Hence, the spoken data is colloquial and pervasive given that it involves various registers and situational contexts concerning daily life and speakers from different ages. We chose the icon “Modern Mandarin” and filled in the keyword *lái* “来” (come), filtering “spoken data”. In total, 1101 instances with *lái* “来” (come) were extracted, and 446 of them are SVCs according to Aikhenvald’s (2006) cross-

linguistic definition of SVC. For *qù* “去” (go), the same procedure was conducted and there are 639 instances in total, among which 330 instances are SVCs. For the convenience of comparison, we randomly selected 300 instances of SVCs with *lái* “来” (come) and 300 instances of SVCs with *qù* “去” (go) as the sample, and analyzed how they represent path event and impact path windowing in SVCs. In the coding process, three types of paths were diagnosed according to Talmy’s (2000a: 265-269) definition, namely, open path, closed path and fictive path. For path windowing, the beginning (initial) point, medial point, ending (final) point and their linking patterns were tagged for all SVCs in term of Talmy’s (2000a: 266-269) theoretical assumptions. To justify the reliability of the result, two linguistics graduate students were employed to assist in the coding of each SVC. Then, the distribution of different path categories and windowing patterns was calculated.

Results and Discussion

Path-event of SVC with *lái* “来” and *qù* “去”

Based on the sample, the statistical analysis of the distribution of open path, closed path, fictive path in SVCs with *lái* “来” and *qù* “去” is shown in Table 1:

Table 1: Distribution of path-event of SVCs with *lái* “来” and *qù* “去”

Path-event of SVC \ Serial verb (Deictic path)	来 <i>lái</i> (come)	去 <i>qù</i> (go)
	open path	179 (59.7%)
closed path	19 (6.3%)	12 (4%)
fictive path	102 (34%)	52 (17.3%)
Total	300 (100%)	300 (100%)

It can be seen from Table 1, the SVCs with *lái* “来” and *qù* “去” mainly refer to open paths. For SVCs with *lái* “来”, the open path event accounts for 59.7%, and for SVCs with *qù* “去”, the open path event reaches 78.7%. An open path here refers to a path that is described by an object physically in motion in the course of a period of time, that is conceptualized as an entire unity thus having a beginning and an end, and whose beginning point and ending point are at different locations in space (Talmy, 2000a: 265). For example:

(3) SVCs with *lái* “来”

- a. 我会住到这样的房子里[来]。
I will live this house come.

“I will come to live in this house.”

- b. 一会儿有人送照片儿[来]。

Soon someone send photos come.

“Someone will send the photos here soon.”

- c. 这都是我同事，跟我一块儿[来]瞧您[来]了。

These are my colleagues, follow me come visit you come.

“My colleagues have followed me to visit you.”

- d. 牛大姐，一早就[来]写发言稿儿[来]了。

Sisiter Niu, very early come write reports come.

“Sister Niu has come to write reports very early.”

(4) SVCs with *qù* “去”

- a. 我到后边打个电话[去]。

I go back make a call go.

“I go back to make a telephone call.”

- b. 我们可以到外边[去]谈谈吧。

We can go outside go have a talk.

“Let’s go outside to have a talk”.

- c. 你带我[去]会会这帮人[去]。

You take me go meet these guys go.

“You take me to meet these guys.”

- d. 跑到卡拉 OK[去]发现新人[去]了。

Run to Karaoke go look for new stars go.

“Have gone to look for new stars in the Karaoke.”

In (3a) and (3b), *lái* “来” is a minor verb, which is grammaticalized as a deictic element of the motion path. There are two *lái* “来” in (3c) and (3d), the first *lái* “来” in (3c) represents path, while the first *lái* “来” in (3d) represents translocational motion. The second *lái* “来” in (3c) and (3d) are followed by a tense-aspect marker *le* “了”, which indicates the completion of the whole event. In example (4), *qù* “去” in (4a) and (4b) both represent path. There are two *qù* “去” in (4c), the first *qù* “去” encodes translocational motion, and the second *qù* “去” encodes path or direction. In (4d), the first *qù* “去” represents path, but the second *qù* “去” in connection with the marker *le* “了” indicate the tense or aspect.

The proportion of times that *lái* “来” and *qù* “去” refer to closed paths is relatively small, at 6.3% and 4% respectively. Closed path refers to the same kind of entity as the open path with the exception that its beginning point and ending point coincide at the same location in space, so that the path constitutes a circuit (Talmy, 2000a: 268). For example:

(5) SVC with *lái* “来”

我们还得给自个挣。这样才能把宁宁接[来]。

We must make money can take Ningning come.
“We must make money to take Ningning back here.”

(6) SVC with *qù* “去”

来，你先坐。我[去]给你找老板。

Come you sit. I go find the boss.

“Come and take a seat. I will go to find the boss.”

It is difficult to identify closed paths through the literal meaning of the above instances because closed paths do not usually window the entire initial, medial and final phases of a trajectory. Therefore, it is not obvious whether the beginning point and ending point coincide in the whole path. In this sense, inferences in line with the context are necessary. Take (5) as an example, *ba ning ning jie lai* “把宁宁接来” can only be recognized as open path when it comes to the literal meaning of this SVC. However, if we consider the context in which the speaker and hearer are talking, it can be inferred that the speaker and hearer now are at location A, and they are talking about making more money in order to bring a girl in location B back to A so that they can live together. The whole conceived path in (5) is “A—B—A”, which is closed in essence. The same is true of *wo qu gei ni zhao lao ban* “我去给你找老板” in (6) given that in actual communication, the person who goes to talk to the boss will come back to the hearer who is waiting for his/her feedback. Most of the closed paths require pragmatic inferences in the real communicating context. An exceptional case is when *lai* “来” and *qu* “去” are conflated together in the same SVC, it is more likely to form a closed path given their deictic opposition. For example:

(7) SVCs with *lai* “来” and *qu* “去”

- a. 蕾丝，来，[去]把那份儿复写纸给我拿[来]。
Lei si, come, go bring the copy paper come.
 “Leisi, please go to bring the copy paper here.”
- b. 我[去]把她叫下[来]。
I go call her come.
 “I go to call her down.”

Fictive paths take up 34% and 17.3% respectively in SVCs with *lai* “来” and *qu* “去”. A spatial configuration that is otherwise understood as static through time can often be alternatively conceptualized so as to be “conceptually sequentialized” and to include a path of “fictive motion”. One type of such a fictive path is the “trajectory” exhibited by a person's focus of attention shifting over a conceived scene. A fictive path is amenable to the same windowing patterns as is a reference to a path of physical motion (Talmy, 2000a: 269). For instance:

(8) SVCs with *lai* “来”

- a. 搁你拉得下这脸儿[来]吗?
You pull the face come.
 Metaphorical meaning: “can you be angry?”
- b. 还闹出陈世美[来]了。
Scream come a Chen Shimmei.
 Metaphorical meaning: “a fickle person named Chen Shimei have appeared”

(9) SVCs with *qu* “去”

- a. 都俗到一块儿[去]了。
vulgarity arrive together go.
 “Become vulgar together.”
- b. 你的幽默感跑到哪里[去]了。

Your sense of humor *run where go.*
 “Where does your sense of humor go?”

Lai “来” and *qu* “去” in fictive path can encode path or directions. However, the path represented is not the physical path but the translocational path of the attention, or the path of the conceptualizer's mental scanning. Hence, it is not the objective path, and the fictive paths in (8) and (9) are metaphorical. Notably, the fictive paths in the sample can be further divided into open paths and closed paths, but we did not do this in order to avoid the repetition of statistics.

Windowing patterns of SVCs with *lai* “来” and *qu* “去”

The statistical analysis of the windowing patterns of SVCs with *lai* “来” and SVC with *qu* “去” is illustrated in Table 2:

Table 2: Distribution of path windowing patterns of SVCs with *lai* “来” and *qu* “去”

Patterns of path windowing	SVC with <i>lai</i> “来” Instances (percentage)	SVC with <i>qu</i> “去” Instances (percentage)
Initial windowing	2 (0.7%)	0 (0%)
Medial windowing	6 (2%)	0 (0%)
Final windowing	181 (60.3%)	197 (65.7%)
Initial+Medial	2 (0.7%)	9 (3%)
Initial+Final	25 (8.3%)	4 (1.3%)
Medial+ Final	75 (25%)	86 (28.7%)
Initial+ Medial +Final	9 (3%)	4 (1.3%)
Total	300 (100%)	300 (100%)

It is worth noting that initial, medial, final windowing refer to the foregrounding of the beginning point, the middle point and the final point of the path event frame in the surface forms respectively. The pattern of “Initial+Medial” means the beginning and middle point of a path event is windowed; the pattern of “Initial+Final” shows that the beginning and final point of the path are profiled in attention; the pattern of “Medial+ Final” place the middle and final point of the path event at the foreground of attention; the pattern of “Initial+ Medial +Final” indicates that all the beginning, middle and final point of the path are windowed.

It can be seen from Table 2 that the most frequent windowing pattern of SVCs with *lai* “来” and *qu* “去” is the final windowing. Among the 300 instances of SVCs with *lai* “来”, final windowing takes up 60.3%; final windowing accounts for 65.7% with respect to the 300 instances of

SVCs with *qù* “去”. The second most frequent windowing pattern for SVCs with *lái* “来” and *qù* “去” is “Medial+Final”, which accounts for up to 25% among the 300 instances of SVCs with *lái* “来” and 28.7% among the 300 instances of SVCs with *qù* “去”. If we calculate the sum of the windowing patterns with “Final” subevent, the ratio regarding final windowing reaches 96.6% in SVCs with *lái* “来” and 97% in SVCs with *qù* “去”.

As there are only two basic deictic motion verbs in Mandarin, namely, *lái* “来” and *qù* “去”, it seems necessary to compare the windowing patterns of SVCs with the two deictic verbs for further generalization. Hence, we conducted a Fisher’s exact test on the frequency list in Table 2, and calculated the p-value of the difference between *lái* “来” and *qù* “去” in SVCs regarding the windowing patterns. The result is shown in Table 3:

Table 3: P-value of significant difference regarding the windowing patterns between SVCs with *lái* “来” and *qù* “去”

Windowing patterns	p-value (Fisher’s exact test)
Initial windowing	0.4992
Medial windowing	0.03047
Final windowing	0.2046
Initial+ Medial windowing	0.06302
Initial+ Final windowing	7.142e-05
Medial+ Final windowing	0.3569
Initial+ Medial+ Final windowing	0.2616

The statistical comparison in Table 3 suggests that there is great similarity regarding the windowing patterns between SVCs with *lái* “来” and *qù* “去” except the pattern of “medial windowing” ($p=0.03<0.05$). The variation in medial windowing consists in the fact that Mandarin deictic verb *qù* “去” is a typical endpoint marker which has the same function as the English preposition “to”. In contrast, the deictic verb *lái* “来” may demonstrate the process of going, thus can occur in the case of medial windowing.

Notably, the overwhelmingly majority of SVCs with *lái* “来” or *qù* “去” demonstrate the pattern of final windowing. As shown in Table 3, there is no significant difference between SVCs with *lái* “来” and *qù* “去” regarding final windowing ($p=0.2046>0.05$). For example:

(10) SVCs with *lái* “来”

- a. 干什么, 上这儿闹事儿[来]了。
What, come here *quarrel come*.
“Why have you come here to quarrel?”
- b. 你看, 刚入席就让你又给弄得这儿[来]了。
Look, just sit let you *bring here come*.
“You have brought me here when I was seated.”
- c. 这年月要饭的可没几个了, 怎么就上我们家[来]了?

.....the beggars *go my home come*.
“.....The beggars has come to my home.”

(11) SVCs with *qù* “去”

- a. 你姨父到大陆做生意[去]了。
Your uncle *go the mainland do business go*.
“Your uncle has been to the Mainland doing business.”
- b. 我做了个噩梦, 掉动物园熊山里[去]了。
I have a nightmare, *fall zoo bear hill go*.
“I dream of falling into the bear hill in the zoo.”
- c. 这话传到人家耳朵[去]了。
These words *transmit to his ears go*.
“These words have been transmitted to his ears.”

In the instances of (10) and (11), *lái* “来” and *qù* “去” are both placed at the end of the SVCs with a marker *le* “了”; *lái* “来” and *qù* “去” are deictic path verbs which encode the direction of motion, and the path can be both physical and fictive (e.g. 11c is fictive path). At the same time, *le* “了”, which indicates the completion of an event, co-occurs with *lái* “来” and *qù* “去”. This marker directs conceptualizer’s attention to the end part of the whole conceived path, as illustrated in Figure 1 (see Ungerer & Schmid, 2008: 222).

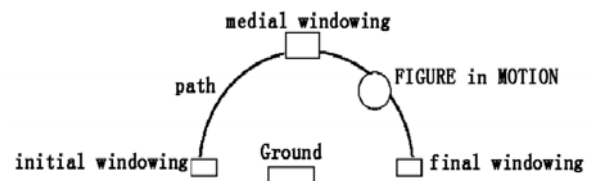


Figure 1: Windowing schema

Take (10a) as an instance, the SVC *shang zhe er nao shi er lai le* “上这儿闹事儿来了” first can activate an image schema of “source-path-goal” in the conceptualizer’s mind. In the schema, Figure of the motion event is moving to the final goal along a complex path, *lái* “来” and the tense-aspect marker *le* “了” direct the conceptualizer’s attention to the goal of the complex path *zhe er* “这儿”, which is the location of “final windowing” in Figure 1. Therefore, in the event of the SVC in (10a), deictic path verb *lái* “来” and marker *le* “了” together profile the end point of the path frame, and make the endpoint the greatest salient portion. The cognitive mechanism of windowing of attention in (10b) and (10c) are similar to (10a). For SVCs with *qù* “去”, the function of *qù* “去” is similar to the English preposition “to”. *qù* “去” directs the conceptualizer’s attention to goal of a sour-path-goal schema, namely, *da lu* “大陆”(the mainland), *xiong shan li* “熊山”(the bear hill), *er duo* “耳朵”(ear) in (11a), (11b) and (11c) respectively, thus it windows the final part of the path event frame. Semantically, the end part of a SVC becomes the attention focus, and the information at the end becomes more salient. For fictive path, the path of motion occurred in the mental dimension, and there is

iconicity between the fictive path and physical path in profiling the final window of attention.

Conclusions

Based on corpus data, this paper has focused on the verbs *lai* “来”(come) and *qu* “去”(go) in Mandarin SVCs and explored how they represent path event and influence the patterns of path windowing in SVCs. The main findings are as follows.

First, among the 300 instances of SVCs with *lai* “来” and 300 instances of SVCs *qu* “去”, *lai* “来” and *qu* “去” mainly represent open path, followed by fictive path and closed path respectively. Surprisingly, when *lai* “来” and *qu* “去” are conflated in the same SVC, it is more likely to encode a closed path given their deictic opposition.

Second, Mandarin SVCs with *lai* “来” *qu* “去” tend to adopt final path windowing (for SVCs with *lai* “来”, final path windowing accounts for 60.3% and 65.7% for SVCs with *qu* “去”), and there is no significant difference between *lai* “来” and *qu* “去” in SVCs regarding the final windowing. Such finding suggests that the final subevent of SVCs with *lai* or *qu* is foregrounded and receives more attention in the conceptualization of the event frame. This provides a clue for the information distribution of Mandarin SVC.

This study develops Talmy’s (1996, 2000a, 2007) theory of windowing of attention with corpus method, which is complementary to introspection data. Moreover, the distribution patterns of attention may have implications for the cognitive mechanism regarding event segmentation of SVC. However, as the definition of SVC is complicated and the data is confined to Mandarin, the endpoint-bias phenomenon requires more cross-linguistic data to validate whether the cognitive mechanism of attention in SVC is universal in human languages. Furthermore, as the motivation of the study consists in connecting the information structure of SVC to an attentional infrastructure, non-linguistic experiments such as eye-tracking or ERPs method will be the future direction to justify the current findings.

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