

# The Diachronic Evolution of Polysemous Motion Verbs in Chinese—A Case Study of *Zǒu* ‘Walk’\*

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**Abstract**—Based on the actual uses of the polysemous motion verb *zǒu* ‘walk’ in the corpora of Chinese texts from Old Chinese to Modern Chinese period, this paper argues that the directed motion sense of the manner verb mainly derives from pragmatic inference from the contexts and cognitive preference for the conceptualization of motion events. In addition, it is essential that favorable morphosyntactic constructions in the language promote the pragmatic sense to be lexicalized as the verb’s lexical meaning. That is, the specific direction encoded in the verb and its grammatical behaviors are not fully determined by the lexical semantics of the verb itself as the grammatical constructions available in the language also account for the evolution of its lexical semantics and grammatical behaviors.

**Index Terms**—polysemous motion verb, pragmatic inference, morphosyntactic construction

## I. INTRODUCTION

Motion verbs can be roughly divided into manner and path verbs. Though most of them fall into only one ontological type as either a manner or a path verb, some verbs do exhibit dual ways of categorization, i.e. they can be both manner and path verbs. For example, the verb *zǒu* ‘walk’, *pǎo* ‘run’ and *fēi* ‘fly’ in Modern Chinese can be either manner or path verbs. In Old Chinese, the verb *zǒu* ‘run’ can also be used as manner and path verbs. The questions are why these verbs demonstrate the dual ways of categorization; what are the possible factors affecting their distinct lexicalization patterns. Focusing on the distinct lexicalization patterns of the verb *zǒu* ‘run/walk’, its lexical semantics and grammatical behaviors are looked at from a diachronic perspective aiming at finding the possible factors affecting their distinct lexicalization patterns and further revealing the relation between lexical semantics and syntactic structures.

This paper starts with a survey of semantic and syntactic evolution of the polysemous motion verb *zǒu* ‘run/walk’. Then the possible factors affecting its distinct ways of evolution are explored with the help of corpora of Chinese texts. In Old Chinese period, the uses of the verb are based on attested examples in three texts, *Zuǒzhuan*, *Hánfēizi*, and *Shǐjì*. In Middle Chinese period, four texts are looked up, which are *Shùhuāo xīnyǔ*, *Bǎiyǐjīng*, *Zútángjì* and *Dūnhuáng bǐànhuán*. In Pre-modern Chinese period, *Piáoshìtōng yànjǐě*, *Lǎoqǐdà yànjǐě*, *Rǔn wàishǐ* (the first 15 chapters), *Hónglǎumèng* (the first 30 chapters), and *Ernǚ yīngxiángzhuan* (the first 10 chapters) are selected to examine directly. The data in Modern Chinese are mainly from the corpus of Modern Chinese constructed by the Center for Chinese Linguistics at Peking University.

## II. THE EVOLUTION OF *Zǒu* ‘WALK’ IN ITS LEXICAL SEMANTICS AND GRAMMATICAL BEHAVIORS

Along the diachronic evolution from Old to Modern Chinese, the verb *zǒu* ‘run / walk’ has kept its polysemous nature constant, i.e. in both periods, it can be either a manner or a result verb. However, its grammatical behaviors and lexicalization patterns in the two periods are different. In Old Chinese *zǒu* ‘run/walk’ is primarily a manner of motion verb specifying prototypically human being’s way of motion: using legs to move quickly, as shown in (1). When it is used as a manner of motion verb, it shows the grammatical property of manner verbs in the way that it does not specify the direction of motion and thus compatible with verbs expressing varied directions.

- (1) sèfū                      chí   shùrén                      **zǒu**  
lower-ranking.officers gallop common.people **run**

‘The lower ranking officers galloped and the common people ran about.’ (Zuǒzhuan Zhāo Gōng 17th year)

In addition, it can also be used as a directed motion verb, since followed by noun phrases immediately as reference objects it can lexicalize the goal of motion, as in (2). It is also worth mentioning when it is used in the directed motion sense it has changed its ontological type from a manner verb to a directed motion one through tone alternation.

- (2) fèng jūn                      yǐ **zǒu** gùgōng  
serve the king CONJ **run** Gu Palace

‘Serve the king to run to Gu Palace’ (Zuǒzhuan Xiāng Gōng 23rd Year)

*Zǒu* ‘walk’ is also polysemous in Modern Chinese, but both the lexicalized meaning components and grammatical behaviors are different from its ancestor. To be specific, the lexicalized manner sense of the verb is not ‘run’ any more;

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rather it has been changed into ‘walk’. In addition, the directed motion sense has also evolved from a goal-oriented path ‘go to’ to a source-oriented path ‘departing from a reference object’. This change can be attested by the contrast between (2) and (3). In (2) above, the noun phrase *gùgōng* ‘Gu Palace’ is the goal of the motion, but (3) below describes a situation that a balloon flew away from a reference object, and thus the direction *zǒu* ‘walk’ indicates is the source of the motion ‘departure from a reference object’.

- (3) qì ú      piāo zǒu      le  
balloon   float walk ASP  
‘The balloon flew away.’

The grammatical behaviors of the verb in two periods also form a clear contrast: whereas it can be followed immediately by noun phrases as references objects of the motion in Old Chinese as in (2), it cannot appear in this kind of constructions in Modern Chinese. Then the questions are: when and how the verb has changed its lexicalized meaning components and grammatical behaviors? Are these changes accidental or affected by certain factors in a systematic way? Can all these changes be explained simply by the lexical semantics of the verb itself?

To answer these questions, I first make comparison between the uses of the verb in Old Chinese period and Middle Chinese period to see whether there is certain evolution tendency which provides some clues for its change in lexical semantics and grammatical behaviors. I collect all the cases of its use as a motion verb in representative texts in both periods and then pick up the cases in which it is used as a goal-oriented path verb ‘go to’, i.e. when it is followed directly by noun phrases. The percentages of its use as a directed motion verb are calculated in both periods. The result is shown in Table 1.

TABLE 1  
THE EVOLUTION OF THE GRAMMATICAL BEHAVIORS OF Zǒu ‘RUN’ FROM OLD TO MIDDLE CHINESE

| Period. Texts  |                       | No. of occurrence | Total number  | ‘go to’<br>zǒu ‘run’+ G |              |
|----------------|-----------------------|-------------------|---------------|-------------------------|--------------|
| Old Chinese    | <i>Zuǒzhū àn</i>      | 37                | 484<br>(100%) | 10                      | 177<br>(37%) |
|                | <i>Hánfēizi</i>       | 50                |               | 9                       |              |
|                | <i>Shǐjì</i>          | 397               |               | 158                     |              |
| Middle Chinese | <i>Shìhuō xīnyǔ</i>   | 11                | 211<br>(100%) | 1                       | 7<br>(3%)    |
|                | <i>Báiyǐng</i>        | 10                |               | 0                       |              |
|                | <i>Zútáng jì</i>      | 33                |               | 0                       |              |
|                | <i>Dīnhuāng bìwén</i> | 157               |               | 6                       |              |

As shown in Table 1, there is no doubt that the verb *zǒu* ‘run’ is dominantly used in its manner sense, as in both periods the percentages of its directed motion sense are less than 40%. This confirms that the manner sense is its primary meaning. However, though its directed motion sense only takes a small percentage of all of its uses, the tendency related to the change in its lexical semantics can also be attested in the table. Its uses in the directed motion sense ‘go to’ in Old Chinese period takes 37% of all its uses as a motion verb, but in Middle Chinese period the goal-oriented path sense drops to only 3%. This means that the goal-oriented path sense of *zǒu* ‘run’ is most often used in Old Chinese period, and it has greatly declined in Middle Chinese period.

Then the question is along the decline of the goal-oriented path sense of *zǒu* ‘run’ whether the directed motion sense used in Modern Chinese ‘depart from a reference object’ also appears at the same time. The data show that it is not the case, since in Middle Chinese period there is hardly any case where the verb is used in the source-oriented path sense. The source-oriented path sense probably appears later. In order to better understand the evolutionary tendency of the lexical semantics of *zǒu* ‘run’, the Pre-modern Chinese period is subdivided according to the periodization based on the alternations of dynasties and the uses of the verb in representative texts in different dynasties are compared. With respect to all of its uses as a motion verb, the percentages of the source-oriented path sense in representative texts in four different dynasties are calculated. The result is shown in Table 2.

TABLE 2  
THE USE OF Zǒu ‘RUN/WALK’ IN SOURCE-ORIENTED PATH SENSE IN PRE-MODERN CHINESE PERIOD

| No. of occurrence  |                      | Total number | ‘depart from a reference object’ |
|--------------------|----------------------|--------------|----------------------------------|
| Period. Dynasty    |                      |              |                                  |
| Pre-modern Chinese | <i>sòng liáo jīn</i> | 825          | 2 (0.2%)                         |
|                    | <i>yuán</i>          | 131          | 13 (10%)                         |
|                    | <i>míng</i>          | 422          | 44 (11%)                         |
|                    | <i>qīng</i>          | 469          | 109 (23%)                        |

It can be seen from Table 2 that at the beginning of Pre-modern Chinese, there is rarely any case of its use in the source-oriented path sense ‘depart from a reference object’. It provides evidence that the source-oriented path sense does not seem to be lexicalized in the verb until Pre-modern Chinese period. Though the percentage of its use in the source-oriented path sense is still relatively low in *Yuan* and *Ming* dynasties, it increases gradually. Approaching the end of Pre-modern Chinese period, the percentage increases to 22%. The data indicate that though from Pre-modern Chinese period the manner sense is still the dominant sense of *zǒu* ‘walk’, but when used as a directed motion verb, the sense of

‘depart from a reference object’ gradually gains currency in the place of the goal direction meaning.

It has been uncovered so far that the verb *zǒu* ‘run/walk’ is dominantly used as manner of motion verb throughout its evolution from Old to Modern Chinese, but its directed motion sense has changed in the process. Its goal-oriented path sense ‘go to’ is most often used in Old Chinese period, but from Middle Chinese period it greatly declined. From Pre-modern Chinese period, another directed motion sense ‘depart from a reference object’ has gradually been used.

### III. FACTORS AFFECTING THE CHANGE OF THE LEXICALIZATION PATTERNS OF MOTION VERBS

With regard to the diachronic evolution of the verb *zǒu* ‘walk’, in this part I will try to analyze possible factors which may contribute to its lexicalization patterns in certain synchronic period and their diachronic development.

#### A. Pragmatic Inference and Cognitive Preference

Though from Old to Modern Chinese, *zǒu* ‘run/walk’ is dominantly used as a manner of motion verb, its manner sense has changed from ‘run’ to ‘walk’. It’s interesting that in spite of its different lexicalized manners in Old and Modern Chinese, the verb has developed a separate directed motion sense in both periods. Based on my analysis of its actual uses in the corpus, I will show that the emergence of its lexicalized directional sense is partly due to the pragmatic inference and cognitive preference related to the nature of motion event specified by the verb. Pragmatic inference related to a common core of manner of motion verbs such as *run* and *walk* shared by most languages promotes the emergence of its directional sense. Goal-biased cognitive preference in conceptualizing motion events can also partly explain the specific direction it encodes at different synchronic periods.

It is observed that manner of motion verbs have varied preference for directional interpretation (Bouchard, 1995; Nikitina, 2008). In spite of different lexicalization patterns related to language typology, manner verbs favoring directional interpretation seem to cluster together across languages. Levin et al. (2009) suggest a pragmatic account that directional interpretation of manner verbs can be explained by pragmatic factors such as the nature of the manner, aspect and ground/path properties related to motion events. Cross-linguistically manner of motion verbs which convey simpler and less elaborated manners are more likely to have directional interpretations than other ones. Verbs that describe shorter events than verbs describe a process with greater duration are more ready to express displacement.

As to the nature of manner encoded in *zǒu* ‘run/walk’, it fits the feature of the type of verbs favoring directional reading. The two possible manners encoded in *zǒu* ‘run/walk’ in Old and Modern Chinese, ‘run’ and ‘walk’, though different, are both major gaits of human’s motion and reflect the human beings’ conceptual structure of world (Malt et al., 2008). Like their counterparts in English, they are more likely to convey displacement, favoring a directional reading even without help of other path-indicating elements in a sentence. According to Rappaport Hovav and Levin (2015), though as to the lexical entailment, these verbs do not entail the path of motion, they lexicalize a manner that strongly suggests the displacement of an entity; they are what Talmy (2000, p. 261) calls “implied fulfillment verbs”. In this sense, they are different from manner of motion verbs like *stomp* and *dance* in English, which without help of other direction indicating elements, are unlikely to convey a directional sense. For example, as shown in (4), with *run* or *walk* as the main verb of the sentence, displacement of the figure is favored in (4a), but the figure’s in-place action is preferred if the main verb is replaced by *stomp* or *dance* in (4b).

(4) a. He ran / walked. (displacement favored)

b. He stomped / danced. (in-place action favored)

This observation can also be confirmed when two different types of manner of motion verbs co-occur with locative prepositions. Though with proper contextual support, all manner of motion verbs in English can have directional interpretation, when followed by a locative prepositional phrase ‘in the room’, *run* and *walk* are more ready to have directional interpretation than *stomp* and *dance*, as shown in (5).

(5) a. John ran / walked in the room.

b. John stomped / danced in the room.

Moreover, there is also cross-linguistic evidence for this observation. Similar situations have also been found in Spanish and Italian. Under favorable pragmatic contexts, verbs specifying similar manners of motion in Spanish such as *volar* ‘fly’, *correr* ‘run’, and *caminar* ‘walk’ as well as in Italian such as *correre* ‘run’ *saltare* ‘jump’, and *volare* ‘fly’ are more likely to have directional interpretations than other manner of motion verbs. (Fábregas, 2007; Folli & Ramchand, 2005; Levin et al., 2009). Cross-linguistic language acquisition also proves that these verbs belong to a subtype of manner of motion verbs which are inherent to displacement to a goal. The natures of manner they describe are characteristic of animate entities moving along with a goal to reach (Allen et al., 2007; Levin et al., 2009). In fact manners specified in the three motion verbs *zǒu* ‘run/walk’, *pǎo* ‘run’ and *fēi* ‘fly’ in Chinese generally fall into the subtype of manner of motion which prefer directional interpretation cross-linguistically. Therefore, strongly inferred directional interpretation from these verbs facilitates their lexicalization of the path sense.

However another fact concerning the directional sense of *zǒu* ‘run’ also needs to be noted, i.e. when it is used in directional sense in Old Chinese, it always specifies a goal direction ‘go to’. As shown in (6), the noun phrases following *zǒu* ‘run’ always indicate the goal of motion.

(6) a. qí hóu jià jiāng zǒu yóu áng

Qi duke ride.chariot will run Youtang

- ‘The Duke of Qi rode a chariot and wanted to run to Youtang’ (Zuǒzhuàn Xiāng Gōng 18th Year)  
 b. bǎipú lí jū jiāng gè zǒu qí yì  
 Baipu scattered live will each **run his town**  
 ‘People of Baipu live in scattered communities and they would go back to their own town.’  
 (Zuǒzhuàn Wén Gōng 16th year)

In (6), the two locative nouns ‘yǒu táng’ ‘Youtang’ and yì ‘town’ following *zǒu* ‘run’ both unambiguously indicate the goal of the motion. Then one may wonder even though the nature of the verb and other semantic features of the motion events support a pragmatic inference of directional reading of the verb, why the verb encodes the goal rather than the source or other types of path schema and where the specific directional interpretation ‘go to’ comes from. Results from recent research on spatial semantics may help explain the puzzling problem. It has been demonstrated that there is a goal-bias cognitive preference in language. That is, the endpoint of motion receives asymmetrical emphasis over starting point or source of motion in terms of semantic and syntactic representation (Ikegami, 1987; Lakusta & Landau, 2005; Papafragou, 2010; Kabata, 2013). This cognitive preference is reflected in both language structure and languages use. As to language structure, goal-oriented paths tend to be unmarked in languages, whereas source-oriented paths tend to be marked (Fillmore, 1997; Ihara & Fujita, 2000; Jackendoff, 1983). For example, in many languages, unmarked and stative places are more ready to be interpreted as goal-oriented path, but not source path. Fillmore (1997) notes that in the sentence ‘the cat ran behind the sofa,’ the complement ‘behind the sofa’ can be used either as a non-directional, locative place complement, or as a goal path complement, so the sentence is ambiguous in the way that it may have a goal-oriented directional motion reading ‘the cat ran to the a place behind the sofa’ or a in-place action reading ‘the cat ran in place behind the sofa’. However, it can never mean ‘the cat ran from behind the sofa’. Concerning language use, it is reported that goal paths are mentioned more often than source paths (Lakusta & Landau, 2012). Concerning to language use, Papafragou (2010) and Lakusta and Landau (2012) observe that goal configuration changes are detected more accurately than other paths information in language comprehension. In language production tasks, goal objects are also referred to more frequently by speakers.

In Old Chinese the goal direction specified by *zǒu* ‘run’ is partly motivated by the goal-biased cognitive preference. As a verb-framed language dominantly rendering the path schema into verbs, Old Chinese has a large path lexicon. More importantly, many of the path verbs describe goal-salient path schema and they require the goal arguments to be overtly expressed. Thus the most common syntactic structure these path verbs are used in is they are followed immediately by noun phrases indicating the goal of the motion. For example, goal salient path verbs in Old Chinese such as *rú* ‘go to’, *shì* ‘go to’, *zhī* ‘go to’, *záo* ‘arrive’, etc. all require the goal object to be expressed, as shown in (7).

- (7) a. zhèngbó rú zhōu shǐ chāo huán wáng yě  
 Zhengbo **go.to Zhou** begin have.an.audience.with Huang Lord AFFIR. PART  
 ‘Zhengbo went to Zhou and began to have an audience with the Lord Huan.’  
 (Zuǒzhuàn Yīn Gōng 6th Year)  
 b. kǒng zǐ shì zhōu jiāng wèn lǐ yǔ lǎozǐ  
 Confucius **go.to Zhou** will ask rites to Laozi  
 ‘Confucius went to Zhou and wanted to ask Laozi about rites’ (Shǐjì Lǎozǐ H án fēi lì zhū àn)  
 c. dàfū qiú mù wén zhī yǐ bīng zào gōng mén  
 grand.master Qiu Mu hear it with weapons **arrive gate.of.the.lord’s.residence**  
 ‘Grand Master Qiu Mu heard it and went to the gate of the lord’s residence with weapons.’  
 (Shǐjì Sòngwēizi sh jǐa)

On the one hand, the prevalence of goal-salient path verbs in Old Chinese and the corresponding syntactic structure in which they typically appear are the evidence that goal-biased cognitive preference is represented in the lexical semantics of verb lexicon in Old Chinese. On the other hand they also provide appropriate construction templates for the originally direction-neutral verbs to build goal direction inference.

Nevertheless, in Modern Chinese goal-biased cognitive preference is not reflected through the lexicalization of path in verbs any more; rather it is reflected through finer-grained goal indicating directional complements such as *jìn* ‘enter’, *huí* ‘return’, *dào* ‘arrive’, *shàng* ‘ascend’, etc., since the dominant framing type of motion events has been changed from verb-framed to satellite-framed type. The goal direction lexicalized in *zǒu* ‘run’ gives way to specialized directional complements. As a result of the interaction between displacement-favored conceptual components in *zǒu* ‘run/walk’ and the property of directional verbal compound construction, it instead encodes another directed motion sense ‘depart from a reference object’.

#### B. The Change in Motion Event Framing Type and Morphosyntactic Structure

Though the pragmatic inference and the cognitive preference are important factors contributing to lexicalization patterns of motion verbs, these factors alone cannot completely explain the distinct lexicalization patterns of the verb *zǒu* ‘run/walk’. The actual lexicalization of certain sense of the verb is also affected by morphosyntactic structure available in the language. As shown in 5.1, along with the evolution of Chinese language, the lexicalized direction sense of *zǒu* ‘run/walk’ has not been kept unchanged. Approaching the Middle Chinese period, its lexicalized direction ‘go to’ in Old Chinese has greatly weakened and has virtually disappeared in Pre-modern Chinese period. Instead, another directed motion sense ‘depart from a reference object’ has been gradually lexicalized and consolidated. This line of

evolution cannot be completely explained only with the help of pragmatic and cognitive factors, since the conceptual components related to the verb haven't changed much. In fact, it is also a result of the two-way interaction between the verb's conceptual components and morphosyntactic structure available in Chinese. The arising and decline of goal path sense encoded in *zǒu* 'run/walk' is closely related to the availability of relevant morphosyntactic resources in certain synchronic period of Chinese language. This point can be seen from two perspectives.

First, as to motion event framing, the typical syntactic devices used to encode path schema affect the emergence and decline of the directed motion sense of *zǒu* 'run/walk'. In Old Chinese period, Chinese is argued to be a verb-framed language, which dominantly renders the core schema path into verbs (Shi & Wu, 2014). The syntactic structure 'path verb + goal object', which is used to encode goal path, provides an ideal construction template for manner verbs like *zǒu* 'run' to enter the schematic slot of 'path verb' and acquire directed motion sense 'go to', analogical to other goal-bound path verbs. Thus it's natural that it can encode the goal-oriented direction in Old Chinese.

However, from Middle to Pre-modern Chinese period, the framing type of the language has gradually evolved from verb-framed to satellite-framed, and the goal paths are more likely to be rendered into directional complements rather than main verbs. As a result of this typological shift, without overtly represented direction-indicating elements, manner verbs cannot encode goal path any more. It explains the gradual decline of the directed motion sense encoded in *zǒu* 'run' from Middle to Pre-modern Chinese period.

From the Pre-modern to Modern Chinese period, when the directional verbal compound (DVC) becomes the dominant syntactic structure to encode motion events, besides the core members of directional complements such as *jìn* 'enter', *huí* 'return', *dào* 'arrive', *shàng* 'ascend', etc., other less-prototypical verbs are also attracted to be used as satellites in DVCs. Since the conceptual component of *zǒu* 'walk' is also compatible with displacement interpretation, it becomes one of the newly developed candidates as directional complements in DVCs lexicalizing directed motion sense, though it needs to be noted that at this time the specific direction encoded in *zǒu* 'walk' has become 'depart from a reference object'. The evidence that shows this evolution process is attested in Lamarre (2013). In her study, Lamarre (2013) analyzes the use of *zǒu* 'walk' as a directional complement from Pre-modern to Modern Chinese period and reveals that both the number of occurrence and the range of verb types it may follow have increased. In Pre-modern Chinese period, to express the meaning of 'depart from a reference object', the deictic verb *qù* 'go' is preferred to be used as directional complement. The use of *zǒu* 'walk' is only restricted to a narrow range of verbs and the number of cases in this use are also found to fewer than that in Modern Chinese.

Second, the evolution of the directed motion sense of *zǒu* 'run/walk' is also affected by the change of phonological and morphological system of Chinese. In Old Chinese, phonological derivation process provides proper morphosyntactic devices for the lexicalization of directed motion in *zǒu* 'run'. In Old Chinese related words are considered to have been derivable by changing the phonological properties of a base word (Pulleyblank, 1995, p.10; Baxter & Sagart, 1998). In particular, based on the most clearly documented phonological derivation process, derivation by tone alternation, a new sense or a new grammatical function of a verb can be derived by changing the original tone into the departing tone. This kind of word derivational process makes it possible for a base verb to acquire a new sense or to change its categorial property without changing its written form. As to the derivation of path verbs from manner verbs in Old Chinese, the change concerning the verb's lexical semantics and grammatical behaviors can be conveniently marked by altering the tone of the manner verb. The derived path sense of the manner verb *zǒu* 'run' is just an example of this derivation process.

(8) a. xún lì yǎn ěr ěr **zǒu** (<sup>c</sup>tso)

Xun Li cover ears CONJ run

'Xun Li ran with his hands covering his ears.'

(Zuǒzhuàn Zhāo Gōng 31st Year)

b. zhào zhān qì chē er **zǒu** (tso<sup>3</sup>) lín

Zhao Zhan abandon cart CONJ run forest

'Zhao Zhan abandoned his cart and ran to the forest.'

(Zuǒzhuàn Xuān Gōng 12th year)

As shown in (8), when the original rising tone of *zǒu* 'run' <sup>c</sup>tso is changed into departing tone tso<sup>3</sup>, correspondingly the verb is changed into a path verb lexicalizing the goal direction of motion. In fact, as attested by researchers (Wang, 2013; Sun, 1997) in Old Chinese the derivation of path verbs from manner verbs is not restricted to *zǒu* 'run'; other manner verbs such as *qū* 'hurry up', *bēn* 'rush', *chāo* 'surpass' etc. also show this kind of lexicalization patterns, which demonstrates that the change in the semantic features and grammatical category of verbs can be marked by altering phonological property in a systematic way. This kind of morphosyntactic resources in Old Chinese facilitates lexicalization of the goal-oriented path sense in the verb *zǒu* 'run'.

However, from Middle to Modern Chinese periods, words in Chinese have undergone the processes of phonological simplification and disyllabification (Wang, 1980; Shi, 2002, among others), which are also thought to have effect on the lexicalization patterns of motion verbs. In Middle Chinese period, phonological system greatly simplifies and the phonological derivation system declines. As a consequence of the loss of this morphological inflection and complex tone system, the original contrastive pair of words which differentiates each other by phonological features cannot be distinguished and thus become homophones. Disyllabic words consequently arose within the language as a means of overcoming problems in communication caused by this proliferation of homophonous monosyllabic words (Lǚ, 1963;

Shi, 2002, p. 71). For polysemous motion verbs encoding both manner and result sense but differing each other only by tone properties like the verb *zǒu* 'run', the derived path sense is also suppressed for the same reason. Consistent with the disyllabification process, at the same period of time the lexicalization patterns of path schema of motion events have gradually changed from verb-framed to satellite-framed with goal-indicating path verbs becoming disfavored in encoding goal direction in motion events. This also promotes the decline of the goal-oriented path sense in *zǒu* 'run'. Therefore, it can be seen that besides the conceptual components of verbs, the morphosyntactic structures do have effect on the possible lexicalizations of verbs. Both the emergence and decline of the goal sense of *zǒu* 'run/walk' are affected by the morphosyntactic structures available in certain synchronic period.

### C. Grammaticalization of Directional Complements in DVCs

As discussed in the previous section, from Middle Chinese period the goal direction sense of *zǒu* 'run/walk' has gradually declined, and as to its grammatical behaviors it cannot be directly followed by locative nouns indicating the goal of motion. Then it can be used either as a prototypical manner of motion verb followed by directional complements, in (9) or as a bare verb in a sentence like (10).

- (9) tā **zǒu** dào jīnshuǐ hé lǐ  
 he **walk arrive** Jinshui River LOC  
 'He walked to Jinshui River.' (Pǐ áoshì tōng yànjiě)

- (10) nà fù nǚ biān **zǒu** le  
 that woman then **walk** ASP  
 'That woman then walked away.' (Pǐ áoshì tōng yànjiě)

In the former case, *zǒu* 'walk' co-occurs with directional complements expressing varied directions. In (9), it appears with another path verb *dào* 'arrive' which indicates the arrival of a goal object and it can be seen that *zǒu* 'walk' does not specify the direction of motion in neither case, and this indicates that it is a pure manner of motion verb which does not specify any direction of motion in its lexical meaning.

However, in the latter case in (10), when it is used as a bare verb of the clause, there is no overt path-indicating element to specify the accurate direction of motion. Since the goal direction is suppressed and the nature of manner encoded in *zǒu* 'walk' implies the displacement of the theme, when it is used in this way, another direction of motion, i.e., the source-oriented direction, becomes more salient. Thus pragmatically it may associate with a default direction 'depart from a reference object'. In fact, its source-oriented path sense just arises from the pragmatic meaning inferred from these cases.

From Pre-modern Chinese period, the further interaction between the directed motion sense of *zǒu* 'walk', 'depart from a reference object', and the construction meaning of directional verbal compounds leads to its grammaticalization as a source-oriented path morpheme. Before proceeding with this point, it is necessary to spend some time explaining the syntactic and semantic properties of the directional verbal compound (DVC) in Chinese. DVCs are a type of motion constructions in which two or three motion verbs are used together in adjacent positions with the second (and the third) one indicating the direction in which an entity moves as a result of action expressed by the first one. Because the direction in which an entity moves is also regarded as kind of result, DVCs are generally considered as a subtype of resultative verbal compounds (RVC), which are compounds consisting of two verbs with the second one indicating some result of the action or process conveyed by the first one. Though DVCs are different from RVC in some aspects, they share major syntactic and semantic properties. First, they both tend to express bounded events. In a RVC the second verb indicates the state the theme achieves, and in DVCs the second verb also marks the bound that the theme reaches or crosses in spatial relation. Second, DVCs like RVCs may form potential constructions by adding negative potential marker *bù* or positive potential marker *de*. Third, they are also one of the morphosyntactic strategies to express causative relation in Modern Chinese. As noted by scholars Modern Chinese does not have lexical and morphological causatives. Verbs which cannot express causative relation when used alone may be combined to form DVCs or RVCs to express caused motion or result. Verbs with lexical semantics compatible with the syntactic and semantic properties are more likely to be used in the two constructions. In fact, it is this compatibility between the lexical semantics of *zǒu* 'walk' and the DVC constructions that promotes the further consolidation of its source-oriented direction sense.

To summarize, throughout the evolution process of *zǒu* 'run/walk' from Old to Modern Chinese, its distinct lexicalization patterns in each synchronic period result from the interaction between conceptual meaning components of the verb and the available morphosyntactic structures in certain developmental period of Chinese language. The nature of the manner encoded in *zǒu* 'run/walk' promotes the pragmatic inference of displacement, which is the basis for further lexicalization of the directional sense in both Old and Modern Chinese. However, the specific direction lexicalized in the verb, goal or source of the motion, is also affected by the morphosyntactic properties of the language. In Old Chinese, goal-biased cognitive preference reflected at the level of verb lexicon, verb-framed framing type of motion events and morphological derivation process by tone alternation promote the actual lexicalization of the goal-oriented direction. In Modern Chinese, the suppression of goal path encoded at the level of verb lexicon, satellite-framed framing type of motion events, disyllabification of Chinese lexicon and the grammaticalization of directional complements in DVCs consolidate the lexicalization of the source-oriented direction.

## IV. THE LEXICAL EVOLUTION OF ZǒU 'WALK' AS AN EPITOME OF THE EVOLUTION OF CHINESE MOTION VERBS

Though the polysemous motion verb *zǒu* ‘run/walk’ has a distinct lexicalization patterns from other motion verbs, its lexical evolution processes from Old to Modern Chinese well reflect the general evolution trend of Chinese motion lexicon. The factors affecting its evolution processes can also account for the lexical evolution of other motion verbs. Though no other Chinese motion verbs have exactly the same lexicalization patterns or undergo similar evolution process as the verb throughout the history of Chinese language, in each period of time there are verbs which pattern with the motion verb in its lexicalization patterns.

For instance, in Old Chinese period when the verb *zǒu* ‘run’ may lexicalize both manner and goal direction of motion, its dual-way ontological categorization is echoed by verbs which involve manners that are also likely to derive a pragmatic inference of displacement, such as *qū* ‘hurry up’ and *bēn* ‘rush’. These verbs are also polysemous, and their polysemous nature can be explained by factors that count for the lexicalization patterns of *zǒu* ‘run’. Similar to *zǒu* ‘run’, *qū* ‘hurry up’ and *bēn* ‘rush’ are also basic manner of motion verbs with high frequency of occurrence in Old Chinese. They typically describe motions featuring relatively high speed, carried out by human beings with an intention to reach a goal. Thus besides their primary manner sense, owing to their preferred pragmatic inference and favorable morphosyntactic devices (e.g. derivation through tone alternation) they also develop an independent goal-oriented path sense, which is also marked by their altered tone as the verb *zǒu* ‘run’.

The similar lexical evolution processes of the polysemous motion verbs and other path verbs in the later developmental stages of Chinese language also support this point. For example, from Middle Chinese period due to the change of the morphosyntactic structure of Chinese (e.g. phonological simplification, disyllabification, etc.) and its typological shift from verb-framed to satellite-framed language, the goal direction sense of *zǒu* ‘run’ becomes disfavored and declines greatly. Its lexical change in this line also parallels to lexical evolution of other motion verbs. The most conspicuous one is the parallel decline of those goal-oriented path verbs. Very similar to the verb *zǒu* ‘run’, most of these path verbs also lose their goal direction sense, though different from *zǒu* ‘run’ after they lose this sense they cannot be used as motion verbs altogether, because the goal path sense is the only meaning component encoded these verbs.

Therefore, though on the surface the lexicalization patterns of the polysemous motion verb discussed in this paper are different from other verbs, and the factors affecting its diachronic lexical evolution also seem to be unique, the data in Chinese indicate that the lexical evolution of the verb is an epitome of the lexical evolution of the entire motion lexicon. The factors related to the conceptualization of motion events, pragmatic use and typological features of the language at different synchronic periods have effect on the evolution of other motion verbs as well. The two-way interaction between the conceptual components of verbs and the morphosyntactic structure of the language is attested in lexicalization patterns of motion verbs in general.

## V. CONCLUSION

The diachronic evolution of the verb *zǒu* ‘walk’ results from the interaction of various factors such as pragmatic inference and cognitive preference that the verb is associated with as well as the available morphosyntactic devices of the language in certain synchronic period. There is cognitive and pragmatic motivation for its distinct lexicalization patterns, but the morphosyntactic structures of Chinese at certain synchronic period also affect its actual lexicalization patterns. Verbal meaning and grammatical constructions have two-way interactions. Not only the lexical semantics of verb determines what grammatical construction a verb may be used in, grammatical constructions may also affect a verb’s lexical meaning.

To view the diachronic evolution of the verb *zǒu* ‘walk’, it can be found that the distinct lexicalization patterns are not accidental; rather the evolution line is motivated by the similar mechanism. Both pragmatic inference obtained from the contexts in the process of language use and the favorable morphosyntactic structures are necessary conditions for the lexicalization of a new sense. Though the verb *zǒu* ‘walk’ is a manner verb and it is associated with displacement inference pragmatically, whether or not it may lexicalize certain directed motion sense depends on whether there is an invited pragmatic inference of the specific direction, on one hand. On the other hand, it also depends on whether there are proper morphosyntactic structures which could provide favorable devices for the lexicalization of the sense. Therefore, the distinct lexicalization patterns of the verb is motivated by various factors such as pragmatic inference, typological change of Chinese, the emergence or decline of certain grammatical constructions and grammaticalization of path-indicating elements in motion constructions. However, these factors affecting the lexical evolution of the polysemous motion verb may also be extended to account for the diachronic evolution of other Chinese motion verbs, so its evolution process represents an epitome of the evolution of the entire Chinese motion lexicon.

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