

# The Manner/Result Complementarity in Chinese Motion Verbs

## Revisited

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### Abstract

Rappaport Hovav and Levin (1998, 2010) propose manner/result complementarity hypothesis (MRC), i.e. verbs can not lexicalize manner and result simultaneously at a time. As to the encoding of motion events, Levin et al. (2009) also claim that manner of motion verbs across languages simply lexicalize manner and no direction is entailed. However, three basic motion verbs in Chinese--*zǒu* ‘walk’, *pǎo* ‘run’ and *fēi* ‘fly’, which are regarded as prototypical manner of motion verbs but also seem to lexicalize directed motion when used in some constructions. Then the questions are: do these verbs lexicalize direction of motion and are they counterexamples of the MRC? The answers to the questions are important as they can provide cross-linguistic evidence for or against the MRC hypothesis and reveal the possible lexicalization patterns of motion verbs in Chinese. Based on evidence gained from a series of linguistic tests, this study argues that on the one hand different from views of Levin et al. (2009), the three manner of motion verbs can indeed lexicalize directed motion, but on the other hand they never encode the manner and direction of motion simultaneously and thus they are not counterexamples of the MRC.

### 1 Introduction

Are there any constraints on the complexity of verb meaning? Can we explain verbs’ varied

grammatical behaviors by looking at their meaning? At least to lexical semanticists, the answers to both questions are “yes”. As advocates of lexical semantic approach, Rappaport Hovav and Levin (2010) propose that verbs’ ontological categorization constrains the complexity of verb meaning and the lexical property of a verb associated with its ontological type is important to determining or constraining its argument expressions. Based on their observation of the meaning components lexicalized in ontologically different types of verbs and their distinct grammatical behaviors, Rappaport Hovav and Levin (1998, 2010) suggest a systematic lexical gap in verbal meaning: manner and result meaning components can not be encoded simultaneously and thus the two meaning components are in complementary distribution. Though the proposal of this hypothesis is primarily based on English data, Rappaport Hovav and Levin (2010) also claim that the manner/result complementarity is cross-linguistically relevant.

Lexicalization patterns of motion verbs in Chinese have been studied mainly based Talmy’s framework of motion events (Talmy, 1985, 2000). Among many other studies, Lin (2011) investigates lexicalized meaning in Chinese motion verbs in the light of the MRC in particular. Based on her observation of the syntactic

distribution of Chinese motion verbs, Lin (2011) argues that the lexicalization patterns of motion verbs in Chinese conform to the MRC. However, some inconsistent grammatical behaviors of three basic motion verbs *zǒu* ‘walk’, *pǎo* ‘run’ and *fēi* ‘fly’ are neglected by previous researchers. The three verbs, though all regarded as manner of motion verbs by researchers, also behave like directed motion verbs in some constructions. For example, the three verbs can be found in subject inversion construction, as in (1)---a property they share with directed motion verbs such as *lái* ‘come’ and *qù* ‘go’ in (2), but not with other manner of motion verbs such as *tiào* ‘jump’ and *pá* ‘crawl’ in (3), as without getting combined with other path morphemes manner of motion verbs generally can not be used in this construction. (Yuan, 1999)

- (1) a. *Zǒu le yī gè xuésheng.*  
walk ASP one CL student  
A student left.
- b. *Fēi le yī zhī gēzi.*  
fly ASP one CL pigeon  
A pigeon flew away.
- (2) a. *Lái le yī gè zhíyuan.*  
come ASP one CL employee  
Here came an employee.
- b. *Qù le yī gè lǎoshī.*  
go ASP one CL teacher  
There went a teacher.
- (3) a. *\*Tiào le yī gè xiǎohái.*  
jump ASP one CL child  
(Intended) a child jumped.
- b. *\*Pá le yī tiáo máomáo chóng.*  
crawl ASP one CL caterpillar  
(Intended) A caterpillar crawled.

Then questions arise: do these verbs lexicalized directed motion in these cases; are these verbs counterexamples of the MRC? The answers to the questions are important as they can provide direct evidence for or against the

cross-linguistic validity of the MRC. The present study intends to have a closer look at the lexicalized meaning and grammatical behaviors of these three motion verbs and determine whether they are counterexamples of the MRC in order to further check the cross-linguistic validity of the hypothesis on one hand, and to reveal the possible lexicalization patterns of motion verbs in Chinese on the other. In the following part, the main tenets of the MRC will be presented in Section 2. Previous studies on lexicalization patterns of Chinese motion verbs will also be briefly reviewed in Section 3 before the three motion verbs *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’ are discussed in detail in Section 4. Section 5 concludes the whole study.

## 2 The manner/result complementarity as a lexical constraint

Assuming the argument realization of a verb is largely determined by event structure decomposition, in particular the association between event schemas and verb roots, Rappaport Hovav and Levin (1998, 2010) propose the ontological categorization of verb roots such as manner and result determines the way the root integrates into an event schema and that a root can only be associated with a single position in an event, as is illustrated in (4). Since manner and result roots occupy distinct positions in event schemas: manner roots are modifiers of the primitive predicate ACT and result roots are arguments of BECOME, the MRC follows.

- (4) a. [x ACT<MANNER>]  
b. [[x ACT] CAUSE [y BECOME  
<RESULT>]]

Rappaport Hovav and Levin (2010) also refine the semantic notions of manner and result verbs as involving non-scalar and scalar changes. In both change-of-state and motion domains result verbs involve scalar changes, as they

lexicalize change in the value of some scalar attribute, while manner verbs lexicalize non-scalar changes which are complex and cannot be characterized by an ordered set of values of a single attribute.

The MRC is claimed to be grammatically relevant as manner and result verbs show distinct argument realization patterns and aspectual features. For example, manner rather than result verbs allow unspecified or unsubcategory objects. While manner verbs are generally atelic activity verbs, result verbs associated with two-point scales are necessarily punctual and telic. Even result verbs involving multiple-point scales can be interpreted telically without supporting context. (Rappaport Hovav, 2014)

### 3 Previous studies on the lexicalization patterns of Chinese motion verbs

Rappaport Hovav and Levin's proposal of the MRC is also consonant with Talmy's well-known classification of motion verbs based on what semantic component--path vs. manner--is conflated into the verb. Lexicalization patterns of Chinese motion verbs have been studied mainly based on Talmy's framework. However, as Lin (2011) points out, motion verbs in Chinese are classified primarily via an intuition-based semantic grouping, so there are some controversies over some less prototypical motion verbs. For example, in Guo and Chen (2009), *zuān* 'squeeze/get into' and *diào* 'fall' are classified as manner of motion verbs but directed motion verbs in Lamarre (2008). Some motion verbs such as *dēng* 'climb' and *táo* 'escape' are also cited as counterexamples of the MRC to encode both manner and direction of motion (Ma, 2008; Shi, 2014). Therefore it is necessary to reexamine the classification of Chinese motion verbs based on systematic and consistent criteria.

Based on the lexical property of manner and

result verbs suggested by Rappaport Hovav and Levin (2010), Lin (2011) introduces several tests to identify manner or direction of motion verbs via their syntactic distribution. For example, according to Lin (2011), manner and direction of motion verbs exhibit different compatibility with other elements expressing manner or result: only manner of motion verbs are compatible with a variety of result and path phrases and only directed motion verbs can be modified by various manner adverbials or co-occur with a variety of manner verbs. As illustrated in (5), *tiào* 'jump' as a manner verb is compatible with a variety of path and result phrases such as *chū* 'exit' and *duàn tuǐ* 'break legs'. Nevertheless, it can not be modified by adverbials or verbs expressing other manners such as *gǔn* 'roll' or *pá* 'crawl'.

- (5) a. *Tā tiào-chū-le shuǐkēng*  
 he jump-exit-ASP puddle  
 'He jumped out of the puddle.'  
 b. *Tā tiào-duàn-le tuǐ*  
 he jump-break-ASP leg  
 'His leg was broken as a result of his jumping.' (Peck et al., 2013, p.683)  
 c. \**Tā gǔn/pá tiào*  
 he roll/crawl jump  
 (Intended) 'He jumped by rolling /crawling.'

However, directed motion verbs show contrastive grammatical behaviors. For example, directed motion verb *huí* 'recede', as illustrated by Lin (2011) in (6), can co-occur with a variety of manner verbs such as *gǔn* 'roll' and *tiào* 'jump', but it is incompatible with path or result phrases which are not related to the path lexicalized in the verb itself.

- (6) a. *Dírén tiào/gǔn-zhe huí guānwài*  
 enemy jump/roll-IMP return pass.outside  
 'The enemy returned to the outside of the pass jumping/rolling'  
 b. \**Dírén huí-lèi le*

enemy return-be.tired ASP  
 (Intended) ‘The enemy became tired as a result of returning’

(Lin, 2011, p.37)

As can be seen, linguistic tests introduced by Lin (2011) can distinguish manner of motion and directed motion verbs in Chinese in a consistent manner so far. However, when we check the actual uses of the three manner of motion verbs *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’, they also pose a problem to Lin’s tests: though in their basic uses they can pass the tests for manner of motion verbs, in some other cases their syntactic distribution just contradicts the property of manner of motion verbs. For example, as prototypical manner of motion verbs, they are not expected to co-occur with other manner verbs, since verbs specifying different manners should not be compatible. Nevertheless, as illustrated in (7), in their actual uses they can co-occur with other manner verbs. In (7a) *zǒu* ‘walk’ co-occurs with another manner verb *piāo* ‘float’, in (7b) *pǎo* ‘run’ also co-occurs with another manner verb *gǔn* ‘roll’ and in (7c) *fēi* ‘fly’ follows another manner verb *tī* ‘kick’.

- (7) a. *Qìqiú piāo-zǒu le.*  
 balloon float-walk ASP  
 ‘The balloon flew away.’  
 b. *Píqú gǔn-pǎo le.*  
 rubber ball roll-run ASP  
 ‘The rubber ball rolled away.’  
 d. *Xiézi bèi tī-fēi le.*  
 shoe PASS kick-fly ASP  
 ‘The shoe was kicked away.’

The inconsistent grammatical behaviors of these verbs illustrated in (7), together with the evidence that they can enter subject inversion construction as mentioned in Introduction section force us to ask whether they can indeed encode direction of motion and then contribute to counterexamples of the MRC. Following the tenets of the MRC and Lin’s (2011) study I will

look at the semantics and grammatical behaviors of these verbs in detail to clarify their ontological status in next section.

#### 4 Case studies of motion verbs *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’

In this section, the lexicalized meaning components and the grammatical properties of the three motion verbs *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’ will be looked at in detail. Besides using Lin’s linguistic tests to distinguish manner verbs from result verbs, I will also take the aspectual property of manner and direction of motion verbs into account, as different aspectual features of manner and result verbs are also crucial to their syntactic distribution. As mentioned in Section 3, Rapaport Hovav and Levin (2010) suggest distinct scalar notions underlying manner and result verbs. In case of motion verbs, manner of motion verbs encode non-scalar changes, they are atelic. Directed motion verbs can be further divided into two subtypes depending on whether they entail two-point or multi-point scalar changes: verbs lexicalizing two-point scalar changes are necessarily telic and punctual and verbs lexicalizing multi-point scales have either telic or atelic readings depending on contexts.

##### 4.1 *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’ used as manner of motion verbs

In their basic uses, there is no doubt that the three verbs show hallmarks of manner verbs. As they lexicalize non-scalar changes, they are necessarily atelic and compatible with durative time adverbial. As illustrated in (8a), *zǒu* ‘walk’ is compatible with durative time adverbial *sān gè xiǎoshí* ‘three hours’. In (8b) *fēi* ‘fly’ can be used with durative time adverbial *sān tiān* ‘three days’.

- (8) a. *Tā zǒu le sān gè xiǎoshí*  
 he walk ASP three CL hour  
 ‘He walked for three hours.’

b. *Xiǎoniǎo fēi le sāntiān*  
 little bird fly ASP three days

‘The little bird flew for three days’

Since they do not entail any direction or result information, they can take as their complements varied result and path phrases. As illustrated in (9a), *pǎo* ‘run’ is compatible with both upward and downward directions. It is also shown that in (9b) *fēi* ‘fly’ can take *duàn* ‘break (wings)’ and in (9c) *pǎo* ‘run’ can take *dīu xié* ‘lose shoes’ as their resultant complements respectively.

(9) a. *Zhànrshi měitiān pǎo-shàng-pǎo-xià*

soldier everyday run-ascend-run-descend  
 ‘Soldiers run up and down everyday.’

b. *Tā-men de chìbǎng dōukuaì fēi-duàn le*  
 they-PL DE wings almost fly-break ASP  
 ‘They (pigeons) almost broke their wings as a result of flying (continuously)’

c. *Tā pǎo-dīu xiézi le*  
 he run-lose shoe ASP

‘He lost his shoes as a result of running’

To conclude, it can be seen that in their basic uses the lexicalized meaning and grammatical behaviors of the three verbs conform to the property of manner of motion verbs.

#### 4.2 *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’ used as directed motion verbs

As mentioned in previous sections, the three verbs can be found to exhibit grammatical behaviors distinct from manner of motion verbs, as they can be used in subject inversion construction and they can also follow another manner of motion verb to form a verbal compound without contradiction. Focusing on the two specific cases, this section uses a series of syntactic and semantic tests to check what lexical meaning they actually encode and to clarify their ontological status.

First, I will show when the three motion verbs are used in subject inversion constructions

they only encode directed motion and their manner of motion sense is dropped out. In Chinese, it is generally accepted by scholars (Huang, 1990; Li, 1990; Yu, 1995) that verbs which are used with perfective aspectual marker in subject inversion construction are prototypical unaccusative verbs. These verbs generally describe non-volitional change-of-state/location of the theme. As illustrated in (10a), the verb *sǐ* ‘die’ describing a non-volitional change of state is unaccusative verb, so it can be used in the subject inversion construction. Nevertheless in (10b) *chàng* ‘sing’ expressing a volitional action is an unergative verb, so it can not be used in the construction.

(10) a. *Sǐ le yí gè rén*  
 die ASP one CL person  
 ‘A person died.’

b. \**Chàng le yí gè rén.*  
 Sing ASP one CL person  
 (Intended) ‘A person sang.’

Though generally manner of motion verbs are regarded as unergative verbs which without getting combined with other path morphemes can not enter the subject inversion construction, the three verbs can be used in the construction, as shown in the example sentences of (1).

With regard to these cases I suggest that these verbs entail only the directed motion as ‘being away from the reference object’. Crucially as is shown by their grammatical properties in this construction, they lose their manner meaning components. First, when they are used in this construction, they lose the atelic aspectual feature of manner verbs and encode punctual and telic changes. The examples in (11) show that they are not compatible with durative aspectual marker *zhe*.

(11) \*a. *Zǒu zhe yí gè xuésheng*  
 walk DUR one CL student  
 (Intended) ‘A student is leaving.’

- \*b. *Pǎo zhe yí gè fànren*  
run DUR one CL prisoner  
(Intended) ‘A prisoner is running away’
- \*c. *Fēi zhe yí zhī gēzi*  
fly DUR one CL pigeon  
(Intended) ‘A pigeon is flying away.’

In addition, when the three verbs are used in subject inversion construction they can not be modified by subject-oriented manner adverbials, as shown in (12). This also indicates that the manner of motion sense of the verbs is dropped out and they encode only the directed motion.

- (12) \*a. *Xìnsù de zǒu le yí gè xuésheng*  
swiftly DE walk ASP one CL student  
(Intended) ‘A student left swiftly’.
- \*b. *Pīnmìng de pǎo le yí gè fànren*  
desperately DE run ASP one CL prisoner  
(Intended) ‘A prisoner ran away desperately’
- \*c. *Mǐnjié de fēi le yí zhī gēzi*  
nimble DE fly ASP one CL pigeon  
(Intended) ‘A pigeon flew away nimbly’

Furthermore, the subject inversion construction is not the only construction in which the tree verbs behave like directed motion verbs. They can also follow another verb specifying different manner to form a verbal compound. Based on Chinese morphology when two verbs co-occur to form a verbal compound there are two types of possible relationship between the two verbs. One type is that the two verbs hold a coordinating relation and they express synonymous information such as *jiàng-luò* ‘descend-fall’. Nevertheless in case of examples in (7) the two verbs express different manners of motion and they are not synonymous, so the possibility of adopting this explanation has been ruled out.

The other type of relation is that the two verbs form a resultative verbal compound, in which the first verb (V1) specifies the manner or

cause of the action and the second verb (V2) indicates the result of the action. As for motion events, the two juxtaposing verbs form directional verbal compound (henceforth DVC) in which the first verb usually specifies the manner or cause of the motion and the second verb expresses the direction of motion. If it is true for the two juxtaposing verbs in (7), the verbs holding V1 position *piāo* ‘float’, *gǔn* ‘roll’ and *tī* ‘kick’ should specify the manner of motion, and the verbs occupying the V2 position *zǒu* ‘walk’ and *pǎo* ‘run’ should describe the direction of the motion. The contrastive semantic entailments of example sentences in (13) and (14) show that it is indeed the case. As shown in (13), the manner of motion verbs *piāo* ‘float’, *gǔn* ‘roll’ and *tī* ‘kick’ do not entail displacement of the theme. In the sentence of (13a), *piāo* ‘float’ describes that flags were floating on the top of the pole where flags were tied and thus no displacement was possible. Similarly, in (13b) *gǔn* ‘roll’ and *tī* ‘kick’ describe actions in place, so there is no displacement either.

- (13) a. *Qíngān shàng piāo zhē xiǎo qí*  
flagpole LOC float IMP small flag  
‘small flags were floating on the top of the pole’
- b. *Tā zài yuándì gǔn/tī*  
he at original place kick/roll  
‘He rolled/kicked in place.’

However, when *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’ are added following these verbs to form verbal compounds, displacement of the theme as ‘being away from the deictic object’ is entailed. In (14a) *piāo-zǒu* ‘float-walk’ entails that the flags floated away and they were not on the top of the pole anymore. Similarly, the verbal compounds *gǔn-pǎo* ‘roll-run’ and *tī-fēi* ‘kick-fly’ also entail the themes have left the deictic object, as illustrated in (14b) and (14c).

- (14) a. *Xiǎo qí piāo-zǒu le,*



- small flat float-walk ASP,  
*\*dàn tā hái zài qíngān shàng.*  
 but it still at flagpole LOC  
 ‘Flags floated away, #but they were still  
 on the top of the pole.’
- b. *Píqíu gǔn-pǎo le,*  
 rubber ball roll-run ASP  
*\*dàn tā hái zài yuándì.*  
 but it still at original place  
 ‘The rubber ball rolled away, #but it still  
 stays at its original place.’
- c. *Xiézi bèi tī-fēi le,*  
 shoe PASS kick-fly ASP  
*\*dàn xiézi hái zài jǎo shàng*  
 but shoe still at foot LOC  
 ‘The shoe was kicked off, #but it was still  
 on the foot.’

Furthermore, distinct lexical entailments can also be attested by looking at the aspectual features of these DVCs. As illustrated in (15), when the three verbs are used as V2 to form DVCs, these DVCs are incompatible with the progressive aspectual marker *zhèngzài*. This indicates that though all the components verbs of these DVCs are typically atelic, these DVCs have lost their atelic aspectual feature and telic change is entailed.

- (15) a. *\*Qìqiú zhèngzài piāo-zǒu.*  
 balloon PROG float-walk  
 (Intended) ‘The balloon is floating away.’
- b. *\*Píqíu zhèngzài gǔn-pǎo.*  
 rubber ball PROG roll-run  
 (Intended) ‘The rubber ball is rolling away’
- c. *\*Xiézi zhèngzài bèi tī-fēi.*  
 shoe PROG PASS kick-fly  
 (Intended) ‘The shoe is being kicked off.’

The change of aspectual feature can also be supported by the contrastive readings of the post-verbal adverbial ‘for X time’ when it co-occurs with only the manner verbs in V1 position or with the DVCs. To be specific, as in

(16) when the manner verbs holding V1 position co-occur with a post-verbal adverbial ‘for X time’, there is only an atelic process reading.

- (16) a. *Qìqiú piāo le yī xiǎoshí le.*  
 balloon float PERF one hour ASP  
 ‘The balloon has floated for an hour.’
- b. *Píqíu gǔn le yī fēnzhōng le.*  
 rubber ball roll PERF one minute ASP  
 ‘The rubber ball has rolled for a minute.’
- c. *Xiézi bèi tī le yī fēnzhōng le.*  
 shoe PASS kick PERF one minute ASP  
 ‘The shoe has been kicked for a minute.’

In contrast, when the post-verbal adverbial ‘for X time’ co-occurs with the DVCs, the time period indicated by the adverbial only has a ‘after X time’ reading which specifies the length of time the result state of ‘being away from the deictic object’ holds; see (17). This further indicates that the DVC as a whole describes a two-point scalar change.

- (17) a. *Qìqiú piāo-zǒu le yī xiǎoshí le.*  
 Balloon float-walk PERF one hour ASP  
 ‘It had been an hour since the balloon  
 floated away.’
- b. *Píqíu gǔn-pǎo le yī fēnzhōng le.*  
 rubber ball roll-run PERF one minute ASP  
 ‘It had been a minute since the rubber ball  
 rolled away.’
- c. *Xiézi bèi tī-fēi le yī fēnzhōng le.*  
 shoe PASS kick-fly PERF one minute ASP  
 ‘It had been a minute since the shoe was  
 kicked off.’

Thus it is safe to believe that the change of the aspectual feature from atelic to telic is attributed to the three verbs holding V2 position. The puzzling problem that the three verbs violate Lin’s linguistic tests for manner of motion verb is also clear now. In these cases, the three verbs do not encode the manner of motion at all, but only express the direction of the motion. That’s why they can co-occur with another manner of motion

verb without contradiction.

Summarizing, when the three prototypical manner of motion verbs exhibit different grammatical behaviors, they also lexicalize distinct meaning components. To be specific, when used in subject inversion constructions and when they follow another manner of motion verb to form a DVC, they lose their manner sense and lexicalize only the sense of directed motion.

#### 4.3 Two distinct senses of *zǒu* ‘walk’ *pǎo* ‘run’ and *fēi* ‘fly’ in complementary distribution

Some may argue the directed motion sense of the three motion verbs may not be the lexical entailment of the verb, and it may be derived from the meaning of the construction they are found in or from other pragmatic factors. In Section 4.2 the directed motion sense of the three verbs has been examined based on two typical constructions in Chinese, so it is natural to assume that the directed motion sense is derived from the constructions. In addition, Levin et al. (2009) argue that cross-linguistically manner of motion verbs share the same type of verb root: they all specify only the manner of motion and the sense of directed motion arises from pragmatic factors. However, I suggest neither case is true for the three motion verbs in Chinese. The directed motion sense is not derived from other elements of the sentence and it is indeed the lexicalized meaning in the verbs because the three verbs can have directed motion reading even though they are not used in the two constructions and without pragmatic support from context. For example, as illustrated in (18), without any contextual support the simple sentence with the verb *zǒu* ‘walk’ as its only verb is ambiguous. It has two possible interpretations: either ‘I am capable of walking.’ or ‘I can leave’. Therefore, it can be seen that the directed motion sense is not derived from the two constructions; rather it is because the three verbs can possibly

lexicalize directed motion that they can enter the two constructions.

(18) *Wǒ néng zǒu le*

I can walk ASP

a. ‘I am capable of walking.’

b. ‘I can leave.’

Interestingly, with the former reading ‘I am capable of walking’ the verb *zǒu* ‘walk’ only encodes the manner of motion and for the latter reading ‘I can leave’ the verb only lexicalizes directed motion as ‘leaving the deictic center’. Though the verb can potentially encode both manner and direction of motion, the sentence never entails ‘I can leave by walking’. In fact, it is just the direct evidence for the MRC as a general principle constraining how much meaning a verb can possibly lexicalize. Following Levin and Rappaport Hovav (2013), a lexicalized meaning component is one which is entailed across all uses of a verb. Though the three motion verbs can potentially lexicalize manner and result, but there is never a single use of the verb which entails both meaning components together. The MRC is a valid cross-linguistic principle that constrains the possible lexicalization patterns of the lexicon.

## 5 Conclusion

Focusing on three Chinese motion verbs *zǒu* ‘walk’, *pǎo* ‘run’ and *fēi* ‘fly’<sup>1</sup>, this study investigates the lexicalization patterns of Chinese motion verbs. Different from the view of Levin et al. (2009) that manner of motion verbs only lexicalize the sense of manner, I suggest the three Chinese motion verbs can indeed lexicalize direction of motion. However, they never encode manner and direction of motion simultaneously and thus do not falsify the MRC. As far as the actual uses are concerned the lexicalization pattern of these three verbs confirms the validity of MRC as a significant observation about how much meaning can be lexicalized in a verb.



### Note

<sup>1</sup> An anonymous reviewer suggests more Chinese verbs with similar lexicalization patterns be investigated. Though there is little agreement upon the classification of some less prototypical motion verbs, e.g. *táo* escape, *luò* fall, *dēng*, ascend, these verbs hardly fall into the same group as the three verbs discussed in this paper. The complexity of the lexicalization patterns of Chinese motion verbs is probably due to the diachronic development of Chinese language, in particular its typological evolution from verb-framed language to satellite-framed language (Lamarre, 2008; Shi, 2014). I have to leave those verbs for future research.

### References

- Chen, Liang and Jiansheng Guo. 2009. Motion events in Chinese novels: Evidence for an equipollently-framed language. *Journal of Pragmatics*, 41:1749-1766.
- Huang, C-T. James. 1990 Two kinds of transitive verbs and two kinds of intransitive verbs in Chinese. In *Proceedings of the Second International Conference on Chinese Teaching*, ed. Ting-Chi Tang et al., 39–59. Taipei: World Chinese Press.
- Lamarre, Christine. 2008. The linguistic categorization of deictic direction in Chinese: With reference to Japanese. In *Space in languages of China: Cross-linguistic, synchronic and diachronic perspectives*, ed. Dan Xu, 69-98. Dordrecht: Springer.
- Levin, Beth, and Malka Rappaport Hovav. 1995. *Unaccusativity: At the syntax-lexical semantics interface*. Cambridge: MIT Press.
- Levin, Beth, John Beavers and Shiao Wei Tham. 2009. Manner of motion roots across languages: Same or different? *Handout, Workshop on roots, University Stuttgart, Germany, June, 2009*.
- Levin, Beth, and Malka Rappaport Hovav. 2013. Lexicalized meaning and manner/result complementarity. In *Studies in the composition and decomposition of event predicates*. ed. Boban Arsenijevic, Berit Gehrke, Rafael Marin, 49-70. Dordrecht: Springer.
- Li, Y.-H. Audrey. 1990. *Order and Constituency in Mandarin Chinese*. Dordrecht: Kluwer Academic.
- Lin, Jingxia. 2011. *The encoding of motion events in Chinese: Multi-morpheme motion constructions*. Stanford: Ph.D. dissertation, Stanford University.
- Ma, Yunxia. 2008. *The Development of Chinese path verbs and motion event expressions*. Beijing: Zhongyang minzu daxue Press.
- Peck, JeeYoung, Jingxia Lin, and Chaofen Sun. 2013. Aspectual classification of Mandarin Chinese verbs: A perspective of scale structure. *Language and Linguistics*, 14(4): 663-700.
- Rappaport Hovav, Malka, and Beth Levin. 1998. Building verb meanings. In *The projection of argument structures: Lexical and compositional Factors*, ed. M. Butt and W. Geuter, 97-134. Stanford, CA: CSLI Publications.
- Rappaport Hovav, Malka, and Beth Levin. 2010. Reflections on manner/result complementarity. In *Syntax, lexical semantics, and event structure*, ed. Edit Doron, Malka Rappaport Hovav, and Ivy Sichel, 21-38. Oxford: Oxford University Press.
- Rappaport Hovav, M. 2014. Building Scalar Changes, in *The Syntax of Roots and the Roots of Syntax*, ed. A. Alexiadou, H. Borer, and F. Schäfer, 259-281. Oxford: Oxford University Press.
- Shi, W., and Wu, Y. Which way to move: The evolution of motion expressions in Chinese. *Linguistics*, 52(5):1237-1292.

- Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In *Language typology and syntactic description 3: Grammatical categories and the lexicon*, ed. Timothy Shopen, 57-149. Cambridge: Cambridge University Press.
- Talmy, Leonard. 2000. *Toward a cognitive semantics, volume II: Typology and process in concept structure*. Cambridge: MIT Press.
- Yuan, B. 1999. Acquiring the unaccusative /unergative distinction in a second language: Evidence from English-speaking learners of L2 Chinese. *Linguistics*, 37: 275-296
- Yu, Ning. 1995. Towards a definition of unaccusative verbs in Chinese. In *Proceedings of the 6th North American Conference on Chinese Linguistics*, ed. Jose Camacho and Lina Choueiri, 339–353. Los Angeles: University of South California.