

Lexical and compositional expressions of result location in Mandarin Chinese

This paper explores lexical and compositional strategies in the realization of spatial result expressions in Mandarin, and the implications for the lexical (e.g. Rappaport Hovav and Levin 1998)/constructional (e.g. Borer 2003) debate in argument realization. I posit a three-way classification of verbs used in expressions of caused change of location (i.e., putting event descriptions e.g. (1)-(2)). (i) Verbs of putting, e.g. *fàng* ‘put’ lexically specify for a result location – a lexical strategy. (ii) Verbs of force exertion e.g. *tuī* ‘push’ may freely combine phrasally with a directional complement – a compositional strategy. (iii) Verbs of throwing e.g. *rēng* ‘throw’ alternate between two senses – also a lexical strategy – straddling (i) and (ii).

I first distinguish verbs of putting and verbs of force exertion using two major criteria. First, these verbs differ in the kind of spatial result complement they may take. A spatial result complement follows the verb and its object nominal, and is headed by a “coverb” – a morpheme with both verbal and prepositional properties. (1) shows a verb of putting e.g. *fàng* ‘put’ allows a spatial result complement (in boldface) headed by either the locative coverb *zài* ‘be at’ or a directional coverb e.g. *jìn* ‘enter’. In contrast, a verb of force exertion e.g. *tuī* ‘push’ allows only a directional complement (2). (The spatial configuration relative to the entity defining the location is conveyed by postnominal clitics such as *-lǐ* ‘within’ (Liu 1998).)

- (1) *tā fàng-le yì běn shū zài/jìn hézi-lǐ* (2) **tā tuī-le yì zhāng lúnyǐ jìn/*zài wū-lǐ*
 3sg put-PERF one CL book be.at/enter box-within 3sg push-PERF one CL wheelchair enter/be.at room-within
 (S)he put a book into the box. (S)he pushed a wheelchair into the room.

Second, force exertion verbs e.g. *tuī* ‘push’ (also *tī* ‘kick’, *lā* ‘pull’, etc.) allow a distance adverbial (3), but verbs of putting e.g. *guà* ‘hang’ (4) (also *fàng* ‘put’, *bǎi* ‘place’ etc.) do not.

- (3) *tuī-le zhāng lúnyǐ shí mǐ jìn wū-lǐ* (4) **guà-le fú huà shí mǐ dào/zài mén-shang*
 push-PERF CL wheelchair 10 metre enter room-within hang-PERF CL picture 10 metre arrive/be.at door-upon
 pushed a wheelchair 10 metres into the room Intended: hung a picture 10 metres up on the door

Verbs of caused motion, e.g. *rēng* ‘throw’ straddle the two classes above. Like ‘put’-type verbs, they allow either a locative or directional result complement (5). Like ‘push’-type verbs, they may take a distance adverbial (6). Crucially, with a distance adverbial, ‘throw’-type verbs behave identically to ‘push’-type verbs in allowing only a directional, and not a locative, complement.

- (5) *tā rēng-le yí gè fēipán zài/dào mén-biān* (6) *rēng-le fēipán shí mǐ dào/*zài mén-biān*
 3sg throw-PERF one CL frisbee be.at/arrive door-side throw-PERF frisbee 10 metre arrive/be.at door-side
 (S)he threw a frisbee by the door. threw the frisbee 10 metres to the door

To capture these asymmetries, I propose first, that a locative (*zài*) result complement is possible only when the verb lexically specifies a (caused) change of location. Such verbs would include ‘put’-type verbs and ‘throw’-type verbs, but not ‘push’-type verbs. Second, a verb that describes an unbounded motion event, or an event construable as giving rise to motion, may freely compose with a directional phrase, to yield an event description involving a spatial result. Below, I argue this compositional option is one kind of serial verb construction (SVC) among others available in Mandarin. Third, verbs such as *rēng* ‘throw’ alternate between caused change of location and caused motion senses. This account is summed up in (7) below.

(7)	Verb describes	Example	Loc compl?	Dir compl?	Distance adv?	Result compl is
	caused change of loc	<i>fàng</i> ‘put’	ok	ok	*	lexically specified
	caused change of loc	<i>rēng</i> ‘throw’	ok	ok	*	lexically specified
	caused motion	<i>rēng</i> ‘throw’	*	ok	ok	composed as SVC
	force exertion	<i>tuī</i> ‘push’	*	ok	ok	composed as SVC

That is, I assume for verbs such as *fàng* ‘put’ a lexical semantic representation such as (8):

- (8) *fàng* ‘put’: $\lambda P_{LOC} \lambda y \lambda x \lambda e \exists e' [\text{put}'(e) \ \& \ \text{Agent}(e, x) \ \& \ \text{Theme}(e, y) \ \& \ [P_{LOC}(y)](e') \ \& \ \text{Result}(e, e')]$

The verb selects for a locative predicate (P_{LOC}), which may range over both locative and directional phrases. P_{LOC} describes a (possibly stative) result subevent of a putting event, applying to the theme y acted upon by the agent (x). Assuming caused change of location event descriptions such

as (8) are not associated with an extended path of motion (or have a strictly bipartite path (Beavers 2008)), a distance adverbial has nothing to measure and thus cannot modify *fàng* ‘put’. In contrast, *tuī* ‘push’ simply describes an Agent acting on a Theme (9). Conceptual knowledge of pushing events yields the inference (10) that the Theme of pushing, if a mobile entity, is likely, though not entailed (hence the squiggly arrow) to be a mover (Kracht 2002). With no specified result, the (inferred) motion event may be unbounded, allowing a distance adverbial.

(9) *tuī* ‘push’: $\lambda y \lambda x \lambda e$ [push'(e) & Agent(e, x) & Theme(e, y)]

(10) $\forall e, y$ [push'(e) & Theme(e, y) & mobile.entity'(y) \rightsquigarrow Mover(e) = y]

Importantly, (8) and (9) also mean that ‘put’-type verbs and ‘push’-type verbs combine with their result complements differently. As (8) shows, a ‘put’-verb selects for its result. Assuming for a *zài* phrase a meaning such as (11), and a Larsonian VP-shell syntax *à la* Baker (1997) that realizes goal/result arguments as complement to V (e.g. (12)), the result interpretation for a ‘put’-type sentence is obtained by functional application of the verb meaning to the locative phrase (13).

(11) *zài hézi-lǐ* ‘be.at box-within, i.e. be in the box’ $\lambda y \lambda e$ [Loc'(y, Internal'(b))(e)]

(12) [_{v'} fàng [_{VP} yì běn shū [_{V'} t_v [_{PP} zài hézi-lǐ]]]]
put one CL book be.at box-within

(13) [[V'] = $\lambda y \lambda x \lambda e \exists e'$ [put'(e) & Agent(e, x) & Theme(e, y) & Loc'(y, Internal'(b))](e') & Result(e, e')]

A directional complement to a ‘push’-type verb, e.g. (14), also contributes a result interpretation, so that the V' in (15) has the meaning in (16), analogous to (13). Crucially, however, the directional phrase combines with the verb not via functional application but rather through an operation such as Ramchand’s (2008) Event Composition.

(14) *jìn wū-lǐ* ‘enter room-within, i.e. enter the room’: $\lambda y \lambda e$ [enter'(y, r)(e)]

(15) [_{v'} tuī [_{VP} yì zhāng lúnǐ [_{V'} t_v [_{VP} jìn wū-lǐ]]]]
push one CL wheelchair enter room-within

(16) [[V'] = $\lambda y \lambda x \lambda e \exists e'$ [push'(e) & Agent(e, x) & Theme(e, y) & enter'(y, r)(e') & Result(e, e')]

I assume an unselected directional complement comes about as part of general SVC-formation in Mandarin, hence its VP label in (15). This accounts for why a locative phrase may occur pre-verbally with the result meaning intact (it is a PP) ((17)-(17')), but a pre-verbal directional coverb – a V – is interpreted as a matrix clause verb with a subordinate purpose clause ((18)-(18')).

(17) *zài zhèn-shang rēng zhàdàn* (18) *dào zhèn-shang rēng zhàdàn*
be.at town-upon throw bomb arrive town-upon throw bomb
throw a bomb on the town go to the town to throw a bomb

(17') [_{v'} [_{PP} zài zhèn-shang] rēng zhàdàn] (18') [_{v'} dào zhèn-shang [_{TP} rēng zhàdàn]]

Finally, the meaning of *rēng* ‘throw’ alternates between the forms in (8) and (9). The first sense allows *rēng* ‘throw’ to take a locative result complement. The second allows it to combine with a distance adverbial. This predicts correctly that with a distance adverbial, *rēng* ‘throw’ (like *tuī* ‘push’) allows only a directional and not a locative complement. That is, the lexical semantics of a verb determines whether it is (in)compatible with a distance adverbial, and not conceptual/contextual factors such as whether the event described involves the theme travelling over a distance. For instance, the verb *dào* ‘pour’ may well describe an event in which liquid travels over some distance to a result location, but *dào* ‘pour’ behaves in the same way as *fàng* ‘put’, and unlike *rēng* ‘throw’, never allows a distance adverbial. This supports the polysemy analysis for ‘throw’-type verbs.

To conclude, lexical/projectionist factors are needed to capture the forms of spatial result complements in Mandarin: Only verbs that lexically select for a spatial result (e.g. ‘put’-verbs and one sense of ‘throw’-verbs) allow a locative complement. This account goes against extreme constructionist proposals (e.g. Borer 2003), which would predict configurational position (e.g. as complement to V) to yield result readings even for locative complements. Constructional strategies such as those relevant for the result interpretation of directional complements for ‘push’-type (and the other sense of ‘throw’-type) verbs are, however, also necessary to the analysis.