

The Typology of Motion Events Revisited

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1 Introduction

- Talmy (1975, 1985, 2000) classifies languages into two typological categories based on how **path** and **manner** are encoded and combined in one clause describing a **directed motion event** that expresses both semantic components.

- (1) (a) S(atellite)-framed (English, Russian, German, Mandarin):
Path is encoded as a *satellite* to a manner main verb in the description of motion events.¹
John limped into the house. (English)
- (b) V(erb)-framed (Spanish, French, Turkish, Japanese, Hebrew):
Path is encoded as a *main verb*; manner must be a subordinate adjunct.
Je suis entré dans la maison (en boitant).
I am entered in the house in limping
'I entered the house (limping).' (French)

- **Refinements:** Path has been argued to mean “path that crosses a boundary” (Aske 1989, Slobin and Hoiting 1994, Stringer 2001); V-framed languages allow S-framed paths when the path does not involve boundary crossing.
- **Extensions:** Some researchers have extended this typology to include a third category for serial verb languages, e.g. “equipollently-framed languages” where “path and manner are expressed by equivalent grammatical forms” (Slobin 2004:249; see also Zlatev and Yangklang, 2004, Slobin and Hoiting, 1994)
- We show that even these revisions are insufficient when faced with the full range of possibilities for encoding path and manner and combining them in one clause.
- We argue that a more representative picture of the variation arises from two morphosyntactic factors.
 - (2) Verb is the *only* clause-obligatory category that can encode either manner or path, but a given verb can only encode one of the two.
 - (3) Availability of language particular resources independent of motion encoding:
 - (a) Morpholexical inventories (e.g. result phrases, aspectual prefixes)
 - (b) Morphosyntactic combinatorial processes (e.g. serialization, compounding)
- These factors, combined with factors preferring certain types of expressions over others (e.g. markedness and processing), interact to give rise to apparent typologies.

¹Talmy (2000:102) defines a satellite as including any category other than NP/PP that is a sister to V and is a dependent of V, including affixes (separable and inseparable), particles, co-verbs, etc.

2 Diversity in the Encoding of Motion

2.1 Encoding Directed Motion with One Verb Only

- It is important to realize that Talmy's original typology was proposed largely on the basis of motion expressions involving just one verb. Thus the tendency towards a two-way typology between encoding path in the verb or manner in the verb is understandable.
- But we also find that the range of data is more complex than Talmy's typology predicts.

2.1.1 The verb encodes manner

Path particles/affixes

- Path is often encoded via a particle or affix associated with a manner V:

- (4) (a) *An owl popped out* (English)
(b) ... *weil da eine Eule plötzlich raus-flattert.*
... because there an owl suddenly out-flaps
'...because an owl suddenly flapped out.' (German)
(c) ... *omdat er een uil uit-vliegt.*
... because there an owl out-flies
'...because an owl flew out.' (Dutch)
(d) *Tam vy-skočila sova.*
there out-jumped owl
'An owl jumped out.' (Russian) (Slobin 2004)

- This is the canonical S-framed pattern, typically not found in V-framed languages.
- However, many supposedly V-framed languages actually do show S-framed behavior, as shown in the next sections, allowing a path to be expressed with a manner verb.

Until-markers

- *Until*-markers may mark goals with manner Vs (Beavers 2003, 2004):

- (5) (a) *The bottle floated as far as/until the cave.* (English)
(b) *La cire coule jusqu'au/*au bord de la table.*
The wax flowed until.to/to edge of the table
'The wax flowed to the edge of the table.' (French; Cummins 1996)
(c) *La botella flotó hasta/??a la cueva.*
The bottle floated until/to the cave
'The bottle floated to the cave.' (Spanish; Aske 1989)
(d) *John-wa kishi-made/*ni oyoida/tadayotta/hatta.*
John-TOP shore-until/to swam/drifted/crawled
'John swam/drifted/crawled to the shore.' (Japanese; Beavers 2003)
(e) *Kayadan kayaya atlayarak uca kadar geldi.* (O. Kemal)
'Jumping from rock to rock he came all the way to the front.' (Turkish; Özçalışkan and Slobin 2003)

- Such markers invariably have other uses marking various boundaries, e.g. marking temporal endpoints of events (e.g. *They talked until the meeting/midnight/they fell asleep*) and sometimes also boundaries of spatial regions.
 - Thus the *until* phrases in (5) are not goal markers per se, but instead are markers of general delimitation. However, since motion events may be delimited by a spatial bound, the *until*-PPs in (5) are interpreted as goal expressions (see Beavers 2004).
 - Strictly speaking, this is S-framed behavior, but (5b-e) are from putative V-framed languages: French, Spanish, Japanese, and Turkish.
 - Aske (1989) argues that these markers do not entail “boundary crossing”, refining Talmy’s typology to be sensitive to the encoding of “telic” vs. “atelic” paths with V (see also Slobin and Hoiting 1994, Martínez Vázquez 2001, Stringer 2001).
 - But the status of the (a)telic path distinction is unclear:
 - *Until*-markers generally do entail or implicate arrival (as in (5)).
 - There is no sense in which (6) doesn’t entail boundary crossing.
- (6) *John-wa dōkutu-no naka-made oyoida.*
 John-TOP cave-GEN inside-until swam
 ‘John swam into the cave’ (Japanese; Kiyoko Uchiyama, p.c.)

Applicatives

- Tswana applicative *-ël-* adds a goal to a manner verb (Schaefer 1985):
- (7) (a) *mò-símàné ó-kíbítl-à fá-tlàsé gá-dì-tlhàrè.*
 CL 1-boy he-run heavily-IMP NEARBY-under LOC-CL 8-tree
 ‘The boy is running with heavy footfall under the trees.’
- (b) *mò-símàné ó-kíbítl-ël-à kwá-tlàsé gá-thàbà.*
 CL 1-boy he-run heavily-to-IMP DISTANT-under LOC-mountain
 ‘The boy is running with heavy footfall to the top of the mountain.’
 (Schaefer 1985, Table VI, (2), Table VII, (2))
- Tswana manner verbs generally resist goal interpretations, a V-framed property.
 - But applicativization puts the path outside the verb, which is S-framed behavior.
 - **Summary:** Some languages exhibit properties of both V- and S-framed languages, tied to particular morpholexical devices the language makes available.

2.1.2 The verb encodes path

Manner adverbials

- In all languages with path verbs, manner can be expressed in a subordinate adverbial clause that includes a verbal participle (typical of V-framed languages):

- (8) (a) *La botella entró a la cueva (flotando).*
the bottle entered to the cave floating
'The bottle entered the cave floating.' (Spanish)
- (b) *Je suis entré dans la maison (en boitant).*
I am entered in the house in limping
'I entered the house limping' (French)

- The important point is that the main verb is the one category that can encode both of these meanings; if there is only one verb, depending on which meaning the verb does encode, language-particular devices come into play to encode the remaining category.

2.2 Encoding Directed Motion with Two Distinct Verbs

- Languages that allow multiple verbs in a single clause are clearly not accommodated by the Talmy typology since they do not have the one-verb-per-clause restriction.
- Thus it is not surprising that to account for such languages some researchers (Slobin 2004, Zlatev and Yangklang 2004) have extended the Talmy typology by positing a third category of “equipollently-framed languages”.
- But, as we show, this category is not sufficient to capture the range of relevant data.

2.2.1 Compound Verbs

- Japanese (Yoneyama 1986, Wienold 1995) and Korean (Choi and Bowerman 1991, Wienold 1995, Kim 1997) exhibit V+V compounds made of path and manner verbs, which would suggest they are equipollently-framed.

- (9) (a) *John-wa eki-e hashitte-itta.*
John-TOP station-to running-went.
'John ran (in)to the station.'
- (b) *John-wa kishi-e oyoide-itta.*
John-TOP shore-to swimming-went.
'John swam to the shore.' (Japanese)
- (10) (a) *Ku salam-i cip-ulo ttwui-e tul-e kassta.*
that person-SUBJ house-to run-C(ONNECTIVE) enter-C went.
'That person ran into the house.'
- (b) *Ku salam-i cip-ulo ttwui-e kassta.*
that person-SUBJ house-to run-C went.
'That person ran to the house.' (Korean; Slobin and Hoiting 1994)

- Yet in cases where compounding is not employed, both languages exhibit V-framed properties (though with *until*-markers). Why two equipollently-framed languages should also exhibit V-framed properties is not obvious from a three-way typology.

2.2.2 Serial Verb Constructions

- Serial verb constructions (SVCs) allow for two distinct verbs, one expressing manner and the other path:

(11) *oli oməhe la o vbi oa*
the man run enter at house
'The man ran into the house.' (Emai; Schaefer 1986:181)

(12) (b) *chán won jónn klàp khâw hóon.*
I circle reverse return enter room
'I returned circling back into the room.'

(c) *chán dænn won klàp jónn khâw paj.*
I walk circle return reverse enter go
'I am walking in a circle, returning back inside.' (Thai; Zlatev and Yangklang 2004)

- However, some Caribbean English Creoles (CECs) have SVCs with only manner+deictic path verbs, expressing goal/path via satellites (cf. Winford, 1990):

(13) (a) *dem a waak go a maakit*
'They're walking to (the) market'

(b) *dem ron kom in a di house*
'They ran into the house'

(c) *Mieri swim-we gaan*
'Mary swam away'

- Thus the path is spread out over multiple categories even in SVC languages.
- **Summary:** Even in a three-way typology things are blurred: languages may tend towards V- or S-framed encoding even when the language allows for multiple-verb options, and some SVC languages exhibit mixed behavior even in multiple-verb encoding. Neither property can be captured by simply positing a third typological category.

3 The Role of Morpholexical and Morphosyntactic Resources

- The data surveyed in the previous section show a wide variety of encoding possibilities for motion events that do not fit comfortably in a two- or three-way typology.
- This survey also shows that some options for the expression of motion events involve one motion verb, while others involve two. The former were the focus of Talmy's work and the basis for his typology; the latter have figured in work that extends his typology.
- Why should the number of verbs partially determine the available encoding options.
- A constraint like (2) (repeated here) may shed light on this question:

(14) Verb is the *only* clause-obligatory category that can encode either manner or path, but a given verb can only encode one of the two.

- This is an instantiation of a more general constraint that verbs encode either a manner or a result, where path is a type of result (Levin and Rappaport Hovav 1991, 1992).
- Given this, there are two classes of options *for the expression of a particular directed motion event in a given language*.

Path as V: If path is expressed in V for a given expression:

- If the language has SVCs/compounding, manner may also be expressed as a V.
- Manner may always be expressed as a subordinate adverbial V.

Manner as V: If manner is expressed in V for a given language:

- If a language has SVCs/compounding, path may also be expressed as a V.
- If a language has appropriate satellite expressions, these may encode path.
- Relative to these two possibilities, the encoding options depend on factors not specific to motion events. For example, both Romance languages and Japanese:
 - Lack applicative morphemes (cf. Tswana), “aspectual” affixes (cf. Russian), particles (cf. Dutch), and have limited case inventories (cf. Finnish).
 - Lack secondary predication (e.g. result phrases and thus goal-phrases, cf. English) (Aske 1989, Talmy 1991, 2000, Snyder 1995a,b, Song 1997, Washio 1997, Folli and Ramchand 2002).

∴ There are two possible encoding options left for path: verbs and *until*-markers.

- Of course, we cannot predict for each language what resources will be available (e.g. Russian lacks path verbs).
- We also cannot predict whether available resources *will* be employed for encoding motion events. That Japanese allows *until*-markers to encode path is a language-specific property. The availability of *until*-markers does not automatically mean they will encode path (e.g. not all English speakers accept *until*-markers for realizing goals).
- Likewise, that a resource is both available and exploited does not predict *how* it is used in combination with other resources, e.g. the kinds of structures in which these resources occur is a further factor that introduces variation:

(15) Compositional Method	Example
Serial Verbs ($V_{manner}+V_{path}$)	Thai, CEC
Compound Verbs ($V_{manner}+V_{path}$)	Japanese, Korean
Adverbial Participles ($V_{path}+V_{manner}[prt]$)	Romance

- For instance, Japanese allows V+V compounds but Romance languages do not, again an independent property of each language.

Thus the encoding possibilities for different languages vary depending on the variety of path and manner encoding options available, the compositional processes for combining them, and how those are exploited in a given language.

4 Revisiting Talmy’s Typology

- If a language has multiple options available for encoding manner or path, some options may be preferred on processing or markedness grounds and thus used more frequently.
- Thus a given language may overwhelmingly favor S- or V-framed encoding despite the availability of other options.
- This accounts for the putative “V-framed” classification of Romance: of the two available options for encoding path, path verbs are preferred over *until*-markers on markedness grounds, yielding a tendency toward V-framed encoding.
- The same holds for Japanese, which additionally allows compounding and thus tends towards V-framed and equipollently-framed encoding.
- In fact, a language may allow both canonical S- and V-framed manner+path combinations if they are not independently ruled out. Both English and Hebrew have manner Vs, path Vs, manner adverbial participles, and goal adpositions:

(16) (a) The dog crawled into the doghouse.

(b) The dog went into the doghouse crawling. (English)

(17) (a) *ha-kelev zaxal la-meluna.*

the-dog crawled to.def-doghouse

‘The dog crawled into the doghouse.’

(b) *ha-kelev nixnas la-meluna be-zxila.*

the-dog entered to.def-doghouse in-crawl_N

‘The dog entered the doghouse crawling.’ (Hebrew; Itamar Francez, p.c.)

- It is even possible for an expression in a language to encode both path and manner outside the verb if there are relevant verbs available:

(18) John moved stealthily out of the bedroom. (manner=adverb, path=adposition)

(a) John stole out of the bedroom. (manner=V, path=adposition)

(b) John left/exited the bedroom stealthily. (path=V, manner=adverb)

- All are valid options, though manner verbs plus path satellites are presumably the least marked (avoiding complex adverbials), thus explaining putative “S-framed” tendencies noted previously for English.

<p>Conclusion: Talmy’s apparent typology results from numerous converging factors, including the overlap of path/manner encoding in V and the independent availability of and preference for certain other non-verbal encoding possibilities for path.</p>

5 Accommodating Locations Understood as Goals

- In English the locative Ps *in* or *on* may sometimes receive a directional interpretation:

(19) (In a context of standing just outside a room)
John walked in the room

- The availability of this interpretation depends on context (Nikitina 2004):

(20) (In a context of standing down the hallway from a room)
John walked in the room

- Comparable data can be found in at least some V-framed languages:

(21) Manner verbs with location-markers in French (Stringer 2003):
(In a context of a mother shouting to her children to come inside.)

(a) *Allez, courons dans la maison!*
go-2PL, run-1PL in the house

‘Come on, let’s run in the house!’

(b) *?#Allez, entrons dans la maison en courant!*
go-2PL, enter-1PL in the house in running

‘Come on, let’s enter the house running!’

- What determines such interpretations and the inference mechanisms involved needs further study, but a theory of motion encoding must be flexible enough to allow them.
- A multifactor approach such as ours more easily accommodates the use of inference to attribute goal interpretations to locative expressions than an explicit typology.

6 Conclusion

- Current typological approaches to the encoding of motion events fail to capture the full richness of motion descriptions cross-linguistically.
- We propose that the wide variation falls out of very general constraints on how manner and path may be encoded in languages plus independent properties of the morpho-lexical and morphosyntactic inventories of particular languages.
- The classic Talmy typology itself may be due to the fact that V may generally encode both manner and path but not simultaneously.
- This type of explanation may also apply to other apparent typological differences between languages (cf. Hale and Keyser 1997, 1998, Koontz-Garboden 2005 on state-derived inchoatives/causatives, Harley 1995, 1997, Hoekstra 1995, Siewierska 1998, Snyder 1995a,b on the dative alternation, Folli and Ramchand 2002 on resultatives/goal expressions, Beavers 2005, in prep on argument/oblique alternations).
- This type of explanation may have ramifications for work in linguistic relativity (cf. Slobin 1987, 1991, 1996, 1997, 2000, 2003, 2004): what have been taken to be distinct conceptualizations of motion events may simply reflect the relative frequency of certain options based on their availability and markedness in a given language.

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