

Manner of motion roots across languages: Same or different?

Beth Levin, John Beavers, and Tham, Shiao Wei
Stanford University, The University of Texas at Austin, and Wellesley College

1 Introduction

• Talmy (1975, 1985) suggests that languages lexicalize different notions in their verb roots. In the domain of motion events, languages fall into two major types:

— PATH (OR V(ERB)-FRAMED) LANGUAGES: Lexicalize the path of motion in the verb; the manner, if specified, is expressed outside the verb (e.g., Romance languages).

- (1) a. La botella entró a la cueva (flotando).
the bottle entered at the cave floating
'The bottle entered the cave (floating).' (Spanish)
- b. La barca passò sotto il ponte (galleggiando).
the boat passed under the bridge floating
'The boat passed under the bridge floating.' (Italian; Folli & Ramchand 2005:82, (3))

— MANNER (OR S(ATELLITE)-FRAMED) LANGUAGES: Lexicalize the manner of motion in the verb; the path is expressed in a complement ('satellite') to the verb (e.g., Germanic languages).

- (2) 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; Slobin 2000:111, (4a))

• This is now considered too simplistic, with lexical inventories not being so sharply skewed towards one kind of root or the other, and with languages often showing characteristics of both types (e.g., Asbury et al. 2008, Beavers, Levin & Tham 2009, Croft et al. in press, Cummins 1996, 1998, Filipović 2007, Jones 1983, Melka 2003, Ramchand & Folli 2005, Son 2007, among others).

• Nevertheless, claims that lexicons differ within and across languages persist.

In the motion domain such claims are used to explain why certain path languages like Italian and Spanish allow some manner of motion verbs to be used with PP complements in the expression of directed motion, counter to their Talmyan type.

- (3) Italian: Directed motion uses possible
- a. La palla è **rimbalzata** sopra il tavolo.
the ball is bounce.PSTPRT on the table
'The ball bounced onto the table.' (Folli & Ramchand 2005:96, (31b))
- b. La rondine è **volata** al nido.
the swallow is fly.PSTPRT at.the nest
'The swallow flew to the nest.'

- (4) Italian: Directed motion uses not possible
- a. * Gianni è **camminato** in spiaggia.
John is walk.PSTPRT in beach
'John walked to the beach.' (intended; Folli & Ramchand 2005:97, (32a))
 - b. * La barca è **galleggiata** sotto il ponte.
The boat is float.PSTPRT under the bridge
'The boat floated (to) under the bridge.'
(intended; Folli & Ramchand 2005:97, (32b))
- (5) Spanish: Directed motion uses possible
- a. Michel **corre** al molino y destruye el cementerio.
Michel run to.the mill and destroy the cemetery
'Michel runs to the mill and destroys the cemetery.'
(Julio López Navarro, *Clásicos del Cine*, p. 152; cited in Fábregas 2007:168, (3b))
 - b. ... **caminó** otra vez al salón
walked again to.the sitting.room
's/he walked again to the sitting room'
(CREA corpus; cited in Martínez Vázquez 2001:49, (83))
- (6) Spanish: Directed motion uses not possible
- a. * Juan **bailó** a la oficina.
Juan danced to the office
'Juan danced into the office.' (intended; Fábregas 2007:169, (5a))
 - b. * El barco **flotó** a la costa.
the boat floated to the coast
'The boat floated to the coast.' (intended; Fábregas 2007:169, (5b))

(Based on auxiliary selection in Italian, such directional uses are considered to be unaccusative due to the selection of the auxiliary *essere* 'be', rather than the auxiliary *avere* 'have' found in other uses of the same verbs (Burzio 1986, Perlmutter 1989, Rosen 1981, among others).)

1.1 The two-root-type approach

- The path languages Italian and Spanish have two types of manner of motion roots.

— ALONGE (1997): Italian *correre* 'run' and *volare* 'fly' lexicalize direction, as well as manner in their directed motion uses, while the preponderance of Italian manner of motion verbs, including *camminare* 'walk' and *nuotare* 'swim', simply lexicalize manner.

- (7) "it is the presence of the meaning component DIRECTION in the verb root that determines the possibility of occurring with a directional phrase" (Alonge 1997:58; translated by BL)
- (8) Proposed entry for *nuotare* 'swim' (Alonge 1997:48; translated by BL)
nuotare: MOVEMENT OF PROTAGONIST, TYPICAL MEDIUM_{<water>}, AIM
(cf. the definition 'move in water to keep oneself afloat')
- (9) Proposed entries for *volare* 'fly' (Alonge 1997:51; translated by BL)
- a. *volare*₁: MOVEMENT OF PROTAGONIST, MEDIUM, TYPICAL SUBJECT
 - b. *volare*₂: MOVEMENT OF PROTAGONIST, MEDIUM, DIRECTION

— FÁBREGAS (2007): Some Spanish manner of motion verbs lexicalize not only the feature ‘Proc(ess)’, but also the feature ‘Path’, allowing them to lexicalize a path projection.

- (10) a. <Proc> verbs: *flotar* ‘float’, *temblar* ‘shiver’, *bailar* ‘dance’
b. <Proc, Path> verbs: *volar* ‘fly’, *correr* ‘run’, *caminar* ‘walk’
(Fábregas 2007:185-186)

- (11) “this second group of verbs [= <Proc, Path> verbs], just like verbs of inherent direction, like *subir* ‘to go up’ or *entrar* ‘to come in,’ contain a path” (Fábregas 2007:186)

— FOLLI & RAMCHAND (2005): Some Italian manner of motion verbs have the optional diacritic feature ‘+R’, which indicates that they license the projection of an RP, a result phrase, which specifies the endpoint (‘telos’) of a motion event.

- (12) a. Manner of motion verbs that are ‘(+R)’: *correre* ‘run’, *rotolare* ‘roll’, *rimbalzare* ‘bounce’, *scivolare* ‘glide, slide’, *gattonare* ‘crawl’, *saltare* ‘jump’, *volare* ‘fly’, *saltellare* ‘jump’
b. Manner of motion verbs that lack this specification: *galleggiare* ‘float’, *camminare* ‘walk’, *galoppare* ‘gallop’, *danzare* ‘dance’, *nuotare* ‘swim’, *sciare* ‘ski’, *passaggiare* ‘walk around’, *vagabondare* ‘wander’
(Folli & Ramchand 2005:97, Table 1)

- In contrast, manner languages such as English have one type of manner of motion root.

All manner of motion verbs can be used in the expression of directed motion, as in (13); all such verbs would simply lexicalize manner.

- (13) Sylvia ambled/crawled/limped/ran/shuffled/tiptoed/walked into the room.

In Folli & Ramchand (2005:98) terms, these verbs all have [–R] roots; their directed motion uses arise from a regular linguistic process (e.g., Higginbotham’s 2000 ‘telic pair formation’).

- In sum, these studies explain directional interpretations of locative PPs with manner of motion verbs in Romance languages by taking the verbs to have two types of roots, but the comparable English verbs to have only one.

- As we show in section 3, English does show a comparable phenomenon, with some manner verbs allowing directional interpretations for locative PPs, even though the prepositions *into* or *onto* could be unambiguously used instead of *in* and *on*, respectively, for the same purpose.

- (14) a. So we **ran in the store**, (my friend Carrie and I) locked the door, and called the police. (www.instantweb.com/v/vlr/vstatmnt.html)
b. So we **ran into the store**, locked the door, and called the police.

- Such observations suggest that an alternative explanation may be necessary.

- Before elaborating, we note that the sets of verbs cited as taking or not taking directional locatives are somewhat inconsistent across both languages and studies; the reasons for this should become clear in section 6, where we also argue that such variability needs to be recognized in an analysis.

1.2 An alternative: The one-root-type approach

THE NULL HYPOTHESIS: Languages, English, Italian, and Spanish included, do not differ in the meanings associated with roots that belong to a comparable verb class.

COROLLARY: All Italian and Spanish manner of motion verbs simply lexicalize manner; that is, none additionally lexicalizes a notion of ‘direction’ or ‘path’.

CONSEQUENCE: An alternative account is needed for why some manner of motion verbs in Italian allow the expression of directed motion. We suggest a pragmatic account, wherein contextual factors favoring a displacement interpretation give rise to such readings with certain locative PPs. This strategy provides an alternative to the directional readings that arise from combining a manner of motion verb with a directional PP.

ADVANTAGES OF A ONE-ROOT-TYPE APPROACH OVER THE TWO-ROOT-TYPE APPROACH:

- offers insight into why verb roots differ with respect to whether they allow directional locatives, and, if so, how freely
- handles the “squishy” nature of the restrictions, including the influence of context on acceptability—a property incompatible with the diacritic nature of the two-root-type approach, but compatible with a pragmatic approach
- explains why English shows a specific, distinct analogue of the Romance phenomenon, which would be unexpected if these languages received distinct analyses; concomitantly, English directional PPs are not the actual analogues of the Romance directional locatives.

2 Elaborating the Romance facts

THE CURRENTLY ACCEPTED PICTURE (revised from Talmy’s original proposal):

- In English all manner of motion roots can be used in the expression of directed motion events.
- In Italian and other Romance languages, only a small number may be.

(e.g., Cummins 1996, 1998, Fábregas 2007, Gehrke 2008, Jones 1983, 1996, Kopecka 2009, Martínez Vázquez 2001, Zubizarreta & Oh 2007)

A PROPOSED SOURCE FOR THE CROSSLINGUISTIC DIFFERENCES:

Differences among preposition inventories of languages.

THE REASON PREPOSITION INVENTORIES MATTER:

- Manner of motion roots do not entail directed displacement along a path, and, therefore, do not semantically select for path arguments, including goals.
- They contrast with directed motion verbs, which entail directed displacement along a path, even in the absence of an overt path-denoting complement.

- (15) a. Terry ran in place.
b. I jumped on the trampoline.
- (16) a. # Sam came, but never left school.
b. # The plane ascended, but remained at 35000ft.
c. # Phil entered, yet remained in the doorway.

— Thus, a manner of motion verb must combine with a path phrase to express directed motion.

- ENGLISH: Has the goal preposition *to* (among others), allowing a goal to be semantically composed with a manner of motion verb through a regular compositional process.

(17) Pat ran/walked/ambled/jogged/plodded to the store.

CONSEQUENCE: All manner of motion verbs can be used in expressing directed motion events.

- ROMANCE LANGUAGES: Lack a dedicated goal preposition comparable to English *to* (Cummins 1996:19, Fábregas 2007, Folli & Ramchand 2005:96, Son 2007, Song 1997).

The Italian preposition *a* and its Romance cognates are often glossed as *to* in the context of motion events, whether described with directed motion verbs, as in the Italian (18), or occasionally with manner of motion verbs, as in (3).

- (18) a. Mario è andato a scuola.
 ‘Mario went to school.’
 b. Carla è ritornata a casa dopo la scuola.
 ‘Carla returned home after school.’

However, they also have locative uses with non-motion verbs, as in (19), also from Italian.

- (19) a. Mario è rimasto a casa.
 ‘Mario remained at home.’
 b. Il mio fratello è a scuola.
 ‘My brother is at school.’

For this reason, studies by Fábregas (2007), Song (1997), Son (2007), among others, suggest that Romance *a* is inherently locative and best glossed ‘at’. (Note: Spanish *a* predominantly shows directional uses, probably since other lexemes, e.g., *en* ‘in’, *a lado de* ‘near’, *dentro* ‘inside’, have taken over some of its former locational functionality; for discussion see Fábregas 2007.)

- This proposal accounts for Romance *a*’s locative uses.
- When Romance *a* occurs with a directed motion verb, the directional interpretation may be attributed to the verb — the *a* phrase is just a location marker.
- When *a* occurs with a typical manner of motion verb, the preposition alone is unable to predicate a result location, explaining the lack of directional interpretation for (20) (and necessitating special treatment of the exceptional verbs; see section 1.1).

- (20) Il ballerino ballò al teatro ‘La Scala’.
 ‘The dancer danced at/*to the La Scala theatre.’

CONSEQUENCE: Romance languages have no general way to express a goal with manner of motion verbs in the expression of directed motion events akin to English *to*.

- However, Romance languages do have prepositions that are inherently directional, such as the counterparts of English ‘towards’. Manner of motion verbs unambiguously show directional interpretations with such prepositions, as many have noted (Aske 1989, Cummins 1996:13f, Fábregas 2007:170, Jones 1983:185f, 1996:396f, Martínez Vázquez 2001, Melka 2003). (Such examples would exemplify manner language behavior in a path language, as some have noted.)

- (21) ‘towards’ prepositions: French *vers*, Italian *verso*, Spanish *hacia*
- (22) Silenciosamente flotaba **hacia** la puerta.
 silently floated towards the door
 ‘She floated silently towards the door.’
 (Mario Vargas Llosa, *La tía Julia y el escribidor*, p. 262; cited in Fábregas 2007:170, (7))

3 The initial problem redescribed

- Italian examples as in (3) must be redescribed:
 - They DO NOT involve a manner of motion verb plus a goal PP—the defining property of a manner language, which allowed such examples to be used to argue that Romance languages do not always conform to their purported Talmyan type.
 - They DO involve a location PP that receives a directional interpretation.
- THE NEW QUESTION: Why is this possible only with some manner of motion verbs, as well as with directed motion verbs?
- ONE ANSWER: These manner of motion verbs have different meanings than the other manner of motion verbs; specifically, they have an element of meaning that makes them like directed motion verbs, allowing them to combine with locative PPs while giving rise to a directional interpretation.
- A DRAWBACK WITH THIS ANSWER: This phenomenon is not unique to Italian and the solution proposed for Italian will not extend to other languages.

This phenomenon is attested in English and other Germanic languages—all manner languages: e.g., Cummins 1996, 1998, Gehrke 2006, 2008, Nikitina 2008, Thomas 2004, Tutton 2009 on English; Biberauer & Folli 2004 on Afrikaans; Gehrke on Dutch; Tungseth 2005, 2008 on Norwegian.

Biberauer & Folli thus propose that in this respect Afrikaans shows path language behavior, perhaps in part because Folli & Ramchand claim this property does not hold of English, as in (23), citing the data in (24).

- (23) “Using one of these ‘locative’ PPs as a complement to a motion verb does **not** produce a result interpretation.” (bold in original; Folli & Ramchand 2005:92)
- (24) a. ? John ran in the store.
 b. * John ran on the beach.
 c. the boat floated underneath/beneath the bridge (locational only)
 (Folli & Ramchand 2005:92, (22), their judgments)

In and *on* are taken to be locative, as shown by their uses with stative verbs in (25), contrasting with *into* and *onto*, which are inherently goal markers and not found with stative verbs, as in (26).

- (25) a. Pat remained in Seattle.
 b. The groceries stayed in the car.
 c. The cat sat on the branch.
- (26) a. John ran/*stayed into the store.
 b. John ran/*was onto the beach barefoot.

Although, as (24) suggests, locative PPs cannot invariably be used directionally in English, PPs headed by clearly locative prepositions can receive a directional interpretation, both with directed motion verbs, as in (27), and manner of motion verbs, as in (28).

- (27) a. Sylvia quickly came in the room.
b. The cup fell on the floor.
- (28) a. Jill walked in the kitchen. (assuming Jill is standing right outside the room)
b. Kim jumped on the bed. (assuming Kim is standing next to the bed)

Even variants of Folli & Ramchand's examples in (24) can receive directional interpretations.

- (29) So we **ran in the store**, (my friend Carrie and I) locked the door, and called the police. (www.instantweb.com/v/vlr/vstatmnt.html)
- (30) Three men with guns jumped out of a white van and **ran on the beach**. (thenews.jang.com.pk/daily_detail.asp?id=178812)
- (31) The two wayward whales swam **underneath the Carquinez Bridge** around 10am. They traveled approximately 15 miles from Benicia, passing under the Carquinez Bridge and into San Pablo Bay. (www.marinemammalcenter.org/learning/comm/humpbacks_delta.asp)
- (32) The catastrophe [=the wreck of the steamer Oakes] was confirmed when a board bearing the broad lettered name **floated beneath the bridge** and past the Talbott mansion on the bank nearby. (http://www.nps.gov/history/history/online_books/glac/adhi1e.htm)

Nevertheless, the supposed difference in acceptability for the (a) and (b) sentences in (24) has some basis: there are a considerable number of examples of *ran into the store* on the web, but there are hardly any instances of *ran onto the beach*, suggesting other factors are at work; see section 4.

CONCLUSION: In addition to a systematic process of combining inherently goal-marking PPs with motion verbs, English has an additional way of combining PPs with motion verbs on a directional reading using locative PPs, which show more variation in acceptability, just as in Romance.

GOAL: A unified account of this phenomenon encompassing Germanic and Romance languages.

4 A pragmatic account of the directional interpretation of locative PPs in English

AN ALTERNATIVE SOLUTION FOR ENGLISH: Nikitina (2008)

The directional interpretation of an English locative PP may be attributed to a pragmatic inference on the part of the reader/hearer:

- (33) Infer a directional interpretation for a locative PP in contexts favoring such an interpretation.

We now review the factors that Nikitina identifies as favoring a directional interpretation: aspect, ground/path properties, and the nature of the manner. Further factors may also be relevant; some are discussed in section 6.

After reviewing Nikitina's study, we show that her pragmatic account can be carried over to the Romance data. We propose that the directional uses of locative PPs observed with certain manner of motion verbs in Romance languages arise in the same way; that is, such uses are NOT a reflection of a different root type.

4.1 Nikitina's corpus study of *in/into*

Nikitina's study investigates the factors facilitating the directional interpretation of English *in* based on the Brown, *Wall Street Journal*, and Switchboard corpora.

- THE NATURE OF THE VERB:

Directional uses of *in* are more common with path than manner verbs, and with manner verbs they are more common with verbs encoding manners that are more likely to convey displacement, such as those associated with the notions 'jump' or 'run'. It has been further noted that these tend to be verbs that convey simpler—i.e. less elaborated—manners (see also Thomas 2004):

- (34) "Restrictions on combinations of directional *in* with explicit descriptions of paths or highly specific manners of motion suggest that *in* describes the resulting state of a spatial transition and is incompatible with the profiling of the process of motion along a path." (Nikitina 2008:185)

SIGNIFICANCE: Path verbs inherently convey displacement; certain (simpler) manner verbs are more likely to convey types of motion intended for displacement than other (more complex) ones, which might include meaning components inconsistent with this; see section 6.

- ASPECTUAL FACTORS:

In phrases are more likely to be understood as directional with verbs that are inherently punctual (or at least describe shorter events), than with verbs that describe a process with greater duration.

In particular, *in* is found less often with manner of motion verbs (which tend to describe processes with greater duration) than with directed motion verbs (which are more likely to allow shorter, transition readings); see also Thomas (2004).

SIGNIFICANCE: Verbs that inherently describe short events can naturally describe transitions from one location to another (Folli & Ramchand's 'result phrase' in some sense captures this intuition). For verbs of greater duration, the associated path is likely to need some physical extent (see also Beavers 2008). That is, Nikitina suggests that *in* is used when there is no prominent (complex) path.

Further support from Dutch (Gehrke 2006, 2008): prepositional uses of *in* 'in' and *op* 'on' allow locative readings with all manner of motion verbs, but directional readings only with a subset.

- (35) a. Rick sprong in het meer.
Rick jumped in the lake
'Rick jumped in the lake.' (locative/directional)
- b. Willemijn zwom in het meer.
Willemijn swam in the lake
'Willemijn swam in the lake.' (locative/*directional) (Gehrke 2006: 333, (11))

The verbs allowing directional readings describe shorter events; those not describe longer events:

- (36) a. Dutch verbs allowing a directional reading: 'jump'; also directed motion 'fall'
b. Dutch verbs disallowing this reading: 'dance', 'crawl', 'walk', 'swim'

The notions of shorter/longer events are inherently squishy. We may—indeed, do—find variation across languages in exactly which manner verbs permit locative PPs with directional readings, though verbs like 'jump' are among the most common and those like 'dance' the least.

• THE NATURE OF THE GROUND (I.E. THE COMPLEMENT OF THE P):

In is found more often with what Nikitina calls ‘containers’—locations with well-defined boundaries, and often a well-defined entrance/exit, such as rooms, boxes, buildings, and cars—than with ‘areas’—locations that lack such boundaries, such as forests, neighborhoods, fields, space.

(37) Container grounds (Nikitina 2008:186, (17)):

- a. He went in the hotel and searched till he found the razor.
- b. I mean, someone walks in a classroom.

(38) Area grounds (Nikitina 2008:186, (18)):

- a. You think you’d, you think you’d, uh, go up in space if you had a chance?
- b. If I walk into a bad neighborhood, I’m sure I’d want to walk through with you because I’m sure you have above the average instinct for how to use guns and how to use them effectively and everything.

According to Nikitina (2008:187), among the directional *in/into* examples in her corpus:

- 9% of the examples (12/127) with area grounds use *in* (rather than *into*).
- 17% of the examples (66/391) with container grounds use *in* (rather than *into*).

The basis for the difference in acceptability for the (a) and (b) sentences in (24) is now clear:

- (a) involves a container—*the store*—and (b) an area—*the beach*.

SIGNIFICANCE: As Nikitina points out, it is more plausible to infer a punctual transition into a container than into an area, which lacks a clear boundary.

(39) “Durative events are more readily conceptualized as involving a salient process of motion than punctual events, just as transitions into ‘areas’ are more often conceptualized as involving a prominent path of motion than transitions into ‘containers’ (with ‘containers’ the transition can be punctual and perceived as a momentary change of state).” (Nikitina 2008:188)

STEPPING BACK: These semantic effects militate against treating English prepositions such as *in* as being open to both locative and directional meanings, since lexical ambiguity should be more consistently available—one of the reasons why *under* has been given such an analysis (e.g., Bouchard 1995:191ff, Folli & Ramchand 2005:92).

CONCLUSION: The directional interpretation of *in* and *on* PPs, then, has a pragmatic basis. Extending a purely diacritic account as proposed for Romance languages to English—proposing two types of manner roots—would not capture this fact, since it would predict more categorical judgments.

4.2 Further confirmation: The preposition *under*

There is consensus in the literature that *under* allows both locative and directional uses (e.g., Folli & Ramchand 2005, Bouchard 1995, Svenonius 2004)

(40) Locative *under*:

- a. The couples waltzed under the trees.
- b. The couple sat under the oak tree.

- (41) Directional *under*:
- a. The ball went under the bed.
 - b. The mouse scurried under the sofa.

(This availability could be attributed to the lack of a competing preposition **underto*, comparable to *into* or *onto*.)

Yet, even with *under*, the availability of a directional interpretation depends on contextual factors, suggesting that it is basically a locative preposition like *in* and *on*.

A corpus study of the directional interpretation of *under*, as in (41), by Estigarribia & Levin (2007) using the Switchboard corpus and the Fisher corpus of Training English shows that contextual factors facilitating the directional interpretation of *in* phrases extend to *under*.

• VERB TYPE:

— Verbs with stative meanings have a locative interpretation of *under*, showing that this reading is always available.

- (42)
- a. The extra key is under the flower pot.
 - b. You should stay under the awning when the sun is out.

— Among (non-stative) motion verbs, those conveying what Estigarribia & Levin characterize as ‘inherent displacement’ (path verbs plus *move*, *get*, and *travel*) are more likely to show a directional interpretation than manner of motion verbs: 83% vs 65% of the relevant examples.

- (43) Inherent displacement verbs: *come*, *disappear*, *get*, *go*, *move*, *travel*, ...

- a. I don’t like things moving under my feet. (locational)
- b. I had to go under the car to retrieve the ball. (directional)

- (44) Manner of motion verbs: *crawl*, *dance*, *drive*, *fly*, ...

- a. We can dance under the stars. (locational)
- b. I’ll just crawl under my rock now. (directional)

This preference mirrors what Nikitina observed with *in*; inherent displacement verbs by their very meaning convey displacement, favoring a directional interpretation of a locative PP.

— As Bouchard (1995:194) notes, some manner of motion verbs, such as *dance* and *wiggle*, are unlikely to allow the directional reading of *under*, contrasting with *bounce*, *float*, *jump*, *swim*.

(In fact, Bouchard (1995:194) posits a two-root-type account for English precisely because only a small number of manner of motion verbs show the directional interpretation of the *under* PP.)

• NATURE OF GROUND:

To determine whether certain grounds provide contextual support for the directional interpretation, an analogue to the ground-as-container criterion, which reflects the inherent lexical content of *in*, needs to be identified.

Estigarribia & Levin did not study this question, but preliminary supporting evidence emerges from considering two salient types of grounds:

— ‘TRUE COVER’—the analogue of ‘container’: an entity which involves a supported surface with a delimited horizontal extent, which defines a clear enclosed space below it; that is, a deck, floor, porch, bed, sofa.

— ‘COVER PROXY’—the analogue of ‘area’: an aggregate of individual entities arranged to form a horizontal plane, not supported from below, and lacking a delimited extent; that is, decorations, lights, stars, streamers, and, often, trees.

(We ignore a variety of grounds, including bridges and arches, as well as balconies, awnings, umbrellas, and canopies.)

On the basis of this distinction, there is suggestive evidence that the nature of the ground matters:

TRUE COVERS: A web search found over 200 preponderantly directional hits for *scurried under the porch*, which involves a true cover.

(45) When I opened the door to say hello, however it [=the kitten] **scurried under** the porch. (jeanburman.com/2007/08/26/thunderstruck)

COVER PROXIES: Searches for *scurried under the stars/lights* did not reveal any hits for the search string itself, whether directional or locational, though there were a handful of locational uses with *scurrying under the stars/lights*; the use of the progressive, which presents the event as an ongoing activity with duration is consistent with the locational meaning.

(46) There’s a balcony where two dachshunds, Eva and Greta, are barking and **scurrying under** the stars. (www.mansonusa.com/interviews/?by=era&view=tgaog/interview_july03_detailsmag)

Why should a ‘true cover’ play a role with *under* analogous to the role that a ‘container’ plays with *in*? It also defines a delimited space allowing the motion into this space to be conceptualized as a clear punctual transition; cf. quote (39).

STEPPING BACK: The factors that favor directional interpretations for *in* seem to apply to *under*.

5 Extending the pragmatic account to path languages

PREDICTION: The pragmatic explanation should extend to path languages: directional interpretations of locative PPs should be available with the appropriate pragmatic support even though such languages lack a preposition such as *to* which allows the direct expression of a goal in a PP.

Although systematic corpus studies comparable to Nikitina’s study of English are lacking for Italian and Spanish, there is a variety of supporting evidence from Romance languages.

5.1 French

Kopecka (2009) presents a corpus study that investigates the occurrences of ten French manner of motion verbs with three locative prepositions—*dans* ‘in’, *sur* ‘on’, and *sous* ‘under’—in the 18 million word Frantext corpus.

(47) Locative PPs used to describe motion at a location:

- a. ... je vois les insectes **marcher sur** les branches basses et sableuses des tamaris, tomber sur les coquilles d'escargots et les écorces, les soulever et s'enfoncer dessous. (Guyotat, *Tombeau pour cinq cent mille soldats*, 1967)
'I see the insects walk on the low and sandy branches of the tamarisks, fall on the snail shells and the bark, lift them and burrow under them.'
- b. L'enfant ses tempes déchirées par les boucles du casque, **court sous** les arbres, dans l'ombre fraîche et verte des fontaines antiques. (Guyotat, *Tombeau pour cinq cent mille soldats*, 1967)
'The child, his temples torn by the buckles of the helmet, runs under the trees, into the fresh and green shadow of the old fountains.'

(Kopecka 2009:60, (8a,c); translated by BL)

(48) Locative PPs used to describe motion to a goal:

- a. Dans la crainte de **marcher sur** un serpent, il ramassait des cailloux qu'il jetait devant lui. (Weyergrans, *Macaire le Copte*, 1981)
'For fear of walking on a snake, he picked up pebbles that he threw in front of him.'
- b. D'un geste souple, elle se dénoua, sauta sur ses pieds, **courut sous** la douche et ferma le rideau. (Perry, *Vie d'un païen*, 1965)
'With a supple gesture, she uncovered herself, jumped on her feet, ran under the shower and closed the curtain.'

(Kopecka 2009:60, (9a,c); translated by BL)

Her study confirms that the factors favoring the directional interpretation of locative PPs in English extend to French.

• THE VERB: Not all manner of motion verbs are found equally with locative PPs with directional interpretations, and the distribution shows some overlap with what is observed in English and Italian.

- (49)
- a. Exclusively found in the expression of motion at a location: *nager* 'swim'
 - b. Favored in the expression of motion at a location: *marcher* 'walk', *courir* 'run', *rouler* 'roll', *voler* 'fly', *ramper* 'crawl'
 - c. Favored in the expression of directed motion: *grimper* 'climb', *sauter* 'jump'

(Kopecka 2009:61; see Table 5 for details)

There is nevertheless variation among the verbs in (b), ranging from about 10% of the locative PPs having a directional interpretation with *marcher* 'walk' to about 40% with *ramper* 'crawl'; *courir* 'run', *voler* 'fly', and *rouler* 'roll' fall in between. In contrast, with *grimper* 'climb' and *sauter* 'jump' the PPs have a directional interpretation in over 80% of the instances.

• ASPECT: The two verbs that most strongly favor the directed motion interpretation, *sauter* 'jump' and *grimper* 'climb', are most likely to be used in perfective forms (passé simple, passé composé), while *voler* 'fly', *nager* 'swim', and *marcher* 'walk' show a strong affinity for the imperfective.

This correlation is reminiscent of Nikitina's observation that directional interpretations of locative PPs are favored in the description of punctual (short) rather than durative (long) events.

• THE GROUND: Although Kopecka codes the types of grounds using categories that make a precise comparison with Nikitina's study difficult, they suggest that if the categories could be aligned, the results would be largely consistent with Nikitina's study.

Locative PPs with directional uses tend to involve grounds that are ‘objects’—entities that are movable, such as tables, trains, trees, or rocks—or ‘animates’, while pure locative uses tend to have ‘place’ and ‘substance’ grounds. The former are fixed geographic spaces such as forests, deserts, sea or paths like streets or ways, while the latter are entities like water, snow, and sand. All of these are extended in space.

Dovetailing more directly with the results of Nikitina’s study is Kopecka’s observation (2009:70) that the use of *dans* ‘in’ in locational sentences is correlated with its more frequent cooccurrence with places—basically, a restatement of Nikitina’s observation.

5.2 Italian

Cited examples, including Alonge’s corpus examples (1997), show properties consistent with a comparable pragmatic analysis.

• THE VERB: The verbs showing directional interpretations of locative PPs are path verbs and a handful of manner of motion verbs, including those in (12a), repeated here.

(50) *correre* ‘run’, *rotolare* ‘roll’, *rimbalzare* ‘bounce’, *scivolare* ‘glide, slide’, *gattonare* ‘crawl’, *saltare*, ‘jump’, *volare* ‘fly’, *saltellare* ‘jump’

The French counterparts of three of the verbs on this list, *gattonare* ‘crawl’, *saltare* ‘jump’, and *saltellare* ‘jump’, are among the verbs most frequently attested with directional interpretations of locative PPs in Kopecka’s study, suggesting similar factors are at play in both languages.

• THE GROUND: Similar constraints are found on *in* ‘in’ locative PPs in Alonge’s corpus examples: directed motion uses involve containers, including geographical entities, while the non-directed motion uses need not.

(51) Directional uses of locative PPs (Alonge 1997:53, 56):

- a. era dovuto andare in città
‘he had to go to the city’
- b. al pachiderma, caduto in una fossa profonda
‘to the elephant, who had fallen into a deep ditch’
- c. Ha dovuto correre nella casa del Mojave
‘S/he had to run into the house of the Mojave.’
- d. è volato in Sicilia per organizzare i primi vertici
‘he flew to Sicily to organize the first summits’
- e. Il piccolo è volato in cortile.
‘The little one flew into the courtyard.’

(52) Non-directional uses of locative PPs (Alonge 1997:56):

- a. a nuotare con Margot nella piscina della signora Guenther
‘to swim with Margot in Mrs. Guenther’s pool’
- b. il primo uomo che ha volato nello spazio
‘the first man that flew in space’

• ASPECT: Baicchi (2005:514) in a study of the expression of motion events in Italian and Spanish translations of the Joseph Conrad’s *Heart of Darkness* notes that events translated with a directional use of a locative PP show “immediacy” or “suddenness”—a property reminiscent of punctuality.

- (53) a. They dashed into the little cabin to rush out incontinently (p. 68)
 b. Sfrecciarono nella piccola cabina per riuscire immediatamente di corsa (p. 55)
 dash.PST in.the small cabin for re.exit immediately of run_N
 (Baicchi 2005:514, (37a,b))

(54) “What examples like these highlight is the property of force dynamic patterns, which describe the sudden act rather than the ongoing activity. In such cases, even in verb-framed languages, manner verbs are used also in boundary crossing events.” (Baicchi 2005:515)

5.3 Spanish

THE VERB: Corpus studies of Spanish by Martínez Vázquez (2001), who particularly systematically surveys the semantic subclasses of manner of motion verbs using Levin (1993) as a guide, and Fábregas (2007), show that the verbs attested with directional uses of locative PPs overlap significantly with those that do in other languages.

Fábregas distinguishes verbs of internal bodily motion as in (55a), which do not take directional uses of locative PPs (as Martínez Vázquez 2001:45f confirms), from other manner of motion verbs, as in (55b); some of the latter have Italian/French counterparts with the same property.

- (55) a. *bailar* ‘dance’, *danzar* ‘dance’, *flotar* ‘float’, *temblar* ‘shiver’
 b. *arrastrarse* ‘crawl/creep’, *caminar* ‘walk’, *?cojear* ‘limp’, *conducir* ‘drive’, *correr* ‘run’, *deslizarse* ‘slip/slid’, *?gatear* ‘crawl’, *nadar* ‘swim’, *navegar* ‘sail’, *remar* ‘row’, *resbalar* ‘slide’, *rodar* ‘roll’, *saltar* ‘jump’, *volar* ‘fly’
 (Fábregas 2007:168f, 185, (40)-(41), augmented with verbs from Martínez Vázquez 2001)

THE GROUND: These studies do not consider the nature of the ground in any detail; investigation is likely to be complicated because a single preposition *en* subsumes both English *in* and *on*.

ASPECT: These studies do not examine this issue.

6 Are some manner of motion verbs special?

As sections 4 and 5 show, the directional interpretation of locative PPs arises in both path and manner languages due to a convergence of factors, one of which is the nature of the verb.

The two-root-type approach assumes that certain verbs are lexically specified for an element of meaning that allows them to take a locative PP with a directional interpretation; however, as this section shows, it is not clear that some manner of motion verb roots should be singled out like this.

THE REASON: As the corpus and other studies reviewed observe, some verb types are favored and some are strongly disfavored; however, there is considerable middle ground, as we now show.

6.1 The semantic factors that play a role

(56) Infer a directional interpretation for a locative PP in contexts favoring such an interpretation.

Factors cited as (dis)favoring particular verbs will be presented, with no attempt at evaluating the relative merits of overlapping factors. Rather, the goal is to set the groundwork for evaluating whether verbs should be lexically specified for allowing directional readings of locative PPs.

- There are recurring observations that the favored verbs describe forms of motion that necessarily produce displacement in some direction (Alonge 1997, Biberauer & Folli 2004:25, Cummins 1996, 1998, Fábregas 2007, Mateu 2008:246, n. 29), such as running, walking, flying, and perhaps jumping and rolling. Verbs that do not, such as those describing dancing, spinning, and twirling, which include what Fábregas calls verbs of internal bodily movement, are disallowed. This idea is implicit in Biberauer & Folli's [+DIR]—their name for Folli & Ramchand's [+R]—and Fábregas '<Path>'.

— This set of verbs is singled out by Allen et al. (2007), who observe, based on a crosslinguistic language acquisition study, that manner of motion verbs can be subdivided as to whether, like these verbs, the manner is “inherent” to displacement to a goal.

— Such verbs involve manners characteristic of animate entities, and many are typically used in order to reach a goal, suggesting that they may indeed at least implicate a notion of path, though they do not lexicalize direction or result, as proponents of the two-root-type approach suggest; see Rappaport Hovav & Levin (2008) on *climb* and Talmy (2000:261) on ‘implied fulfillment verbs’.

Consider (15), and in reference to the French verbs *courir* ‘run’, *marcher* ‘walk’, *conduire* ‘drive’, *nager* ‘swim’, *voler* ‘fly’, *skier* ‘ski’, *patiner* ‘skate’, *ramer* ‘row’:

(57) “one can imagine circumstances in which the action can be performed without actually getting anywhere (e.g. walking or running on an exercise machine, swimming or rowing against the tide, etc.). Moreover, even when there is a strong pragmatic implication of movement, these verbs focus on the manner in which this movement is brought about rather than on the destination.” (Jones 1996:395)

— These verbs contrast with those “used to lexicalize motion events with no clear beginning, path of motion, or end—that is, a movement or a series of movements takes place, but where this motion event begins, and the path it subsequently sketches, is left unclear” (Tutton 2009:18).

Similarly, Jones (1996:396) writes that some French verbs “(e.g. *errer* [‘wander’] and *s’égarer* [‘wander’]) indicate movement of a rather aimless sort, while others (like *flâner* [‘saunter’], *se promener* [‘stroll’], *se balader* [‘stroll’], and *voyager* [‘travel’]) seem to focus on aspects of the journey itself (e.g. a leisurely attitude on the part of the subject entity, the distance covered, etc.).”

Biberauer & Folli (2004:25) refer to Afrikaans *draf* ‘jog’ as a “recreational activity of running, an activity which lacks the typical direction component common to the other ‘run’ verbs.”

— Cummins notes another category of favored verbs: those that may describe a unified, uninterrupted movement. She notes that in French the directional use of a locative PP is often found in the description of an event consisting of a single unified and unbroken movement of the type necessarily associated with directed motion *arriver* ‘arrive’ and manner *sauter* ‘jump’, as well as in those uses of *glisser* ‘slide’ that mean ‘slip’, those uses of *ramper* ‘crawl’ that refer to a single raising of the body, and those uses of *marcher* ‘walk’ that refer to taking a single step.

(58) a. J’ai glissé sur la glace.
‘I slipped on the ice.’

- b. J'ai marché dans une flaque d'eau.
'I stepped into a puddle.' (also 'I walked around in a puddle.')
- c. D'Artagnan rampa sur la route.
'D'Artagnan crawled onto the road.' (also 'D'Artagnan crawled along the road.')
- (Cummins 1998:56, (12a), 63, (31a,b))

Nikitina's study suggests that this preference arises because the associated events are very short, if not punctual; see the quote in (34).

6.2 Why the manner verb inventory cannot be split in two

- Kopecka's quantitative study of French shows that there is considerable variation as to how likely the directional interpretation is across verbs, and Fábregas (2007:168f) makes comparable comments in his discussion of Spanish, though he does not give any specific figures.

Such observations suggest that associating a verb with a 'diacritic' feature is only of limited value in understanding the phenomenon.

- The two-root-type account provides no insight into why disfavored or disallowed verbs may occasionally be attested with directional interpretations of locative PPs.

— Verbs such as *crawl*, *plod*, *shuffle*, and *trudge*, which seem less intentional than *run* or *walk* can occasionally be found with directional interpretations of locative *in*; see also Tutton (2009:18).

- (59) a. Sleepy cadets **shuffled in** the room, perplexed and weary of the phenomenon, as rounds of interrogations began. ([books.google.com/books?isbn=1596290110...](https://books.google.com/books?isbn=1596290110))
- b. ... the slug was said to have **crawled in** the bottle before it was filled ...
(news.bbc.co.uk; Tutton 2009:18, (46))

These uses are most likely 'licensed' in part by having containers as grounds; (59b) describes the type of single, unbroken movement noted by Cummins.

— Similarly, verbs that describe aimless motion such as *amble*, *stroll*, or *wander* can occasionally be found with directional interpretations of locative *in* in appropriate contexts.

- (60) ... my 2 year old daughter had **wandered in** the room drawn in by the sounds of battle.
(www.audioholics.com/reviews/receivers/pioneer-vsx-818v/listening-conclusion)

— Even verbs commonly cited as allowing directional readings of locative PP show such readings only in some contexts: e.g., the length of the event being described matters, as discussed in 4.1.

- (61) a. [Standing just outside the room]
John walked in the room.
- b. [Standing down the hallway from the room]
* John walked in the room.
- (62) a. [Standing next to the bed]
John jumped on the bed.

- b. [Standing on the other side of the room from the bed]
* John jumped on the bed.

- These examples suggest that the properties of a particular situation can take priority over prototypical real world knowledge, licensing directional uses of locative PPs when there is appropriate contextual support, even with some verbs which might seem unanticipated or even impossible, thus casting doubts on claims that some manner of motion verbs disallow such readings.

6.3 Consequences for the analysis of manner of motion verb roots

- Any subdivision of the manner of motion verb inventory with respect to the ability to allow a directional interpretation of a locative PP cannot be categorical.
- This distributional property is incompatible with the diacritic nature of the two-root-type approach, which assumes that there is a categorical division between those manner of motion verb roots that do and do not allow the directional interpretation.
- The one-root-type approach, which does not single out particular manner verb roots, fares better in explaining the distribution of the directional locative phrases across verbs.

7 Conclusions and outlook

- English and Romance languages are less different than they appear to be: all may attribute directional readings to locative PPs with manner of motion verbs, with appropriate pragmatic support.
 - The null hypothesis is supported: Languages should have the same ontological root types available, and roots of purportedly the same type should not receive distinct treatment within a language.
 - Nevertheless, languages need not have precisely the same inventories of roots of a given type.
- Language apparently have a common core of manner of motion verbs specifying major gaits (e.g., the notions ‘walk’, ‘run’, ‘fly’).

Malt et al. (2008) show that English, Dutch, Japanese, and Spanish make a lexical distinction between ‘walk’ and ‘run’ which aligns with a perceptual discontinuity between the two gaits, so that the existence of these two lexical items reflects the structure of the world.

— Beyond that, languages differ in which and how many manner of motion roots they lexicalize.

Slobin reports that manner languages have considerably more manner of motion verbs than path languages (2006:71), but even manner languages may differ, not so much in the size of their inventories, but in their members (Slobin 2000:122; see Snell-Hornby’s 1983 German-English comparison). As Slobin notes (2000:116), these differences involve finer specifics of the motion, such as speed, intent, state of the figure, step size; such distinctions, unlike the basic ‘walk’/‘run’ distinction, are not given by the world.

- Our approach to the directional interpretation of locative PPs is consistent with Beavers, Levin & Tham’s (2009) proposal that Talmy’s typology of the lexicalization of motion events emerges from motion-independent morphological, lexical, and syntactic resources languages make available for encoding manner and path of motion.

Acknowledgments: We thank Bruno Estigarribia and Tanya Nikitina for invaluable discussion of ideas in this talk. We are also grateful to Patricia Amaral, Marie-Catherine de Marneffe, and Fabio del Prete for help with the Romance data.

References

- Allen, S., A. Ozyürek, S. Kita, A. Brown, R. Furman, T. Ishizuka, and M. Fujii (2007) “Language-specific and Universal Influences in Children’s Syntactic Packaging of Manner and Path: A Comparison of English, Japanese, and Turkish”, *Cognition* 102, 16-48.
- Alonge, A. (1997) “Semantica lessicale e proprietà sintattiche dei verbi di movimento italiani: analisi di dati acquisiti da dizionari di macchina e da un corpus testuale computerizzato”, *Atti del III Convegno della Società Internazionale di Linguistica e Filologia Italiana*, 31-63.
- Asbury, A., B. Gehrke, H. van Riemsdijk, and J. Zwarts (2008) “Introduction: Syntax and Semantics of Spatial P”, in A. Asbury, J. Dotlačil, B. Gehrke, and R. Nouwen, eds., *Syntax and Semantics of Spatial P*, John Benjamins, Amsterdam, 1-32.
- Aske, J. (1989) “Path Predicates in English and Spanish: a Closer Look”, *BLS* 15, 1-14.
- Baicchi, A. (2005) “Translating Phrasal Combinations Across the Typological Divide”, in M. Bertucelli Papi, ed., *Studies in the Semantics of Lexical Combinatory Patterns*, Pisa University Press, 487-519.
- Beavers, J. (2008) “Scalar Complexity and the Structure of Events”, in J. Dölling and T. Heyde-Zybatow, eds., *Event Structures in Linguistic Form and Interpretation*, Mouton de Gruyter, Berlin, 245-265.
- Beavers, J., B. Levin, and S.W. Tham (2009) “The Typology of Motion Events Revisited”, ms.
- Biberauer, T. and R. Folli (2004) “Goals of Motion in Afrikaans”, in O. Courzet, H. Demirdache, and S. Wauquier-Gravelines, eds., *Proceedings of Journées d’Etudes Linguistiques 2004*, 19-26.
- Bouchard, D. (1995) *The Semantics of Syntax: A Minimalist Approach to Grammar*, The University of Chicago Press, Chicago, IL.
- Burzio, L. (1986) *Italian Syntax: A Government-Binding Approach*, Reidel, Dordrecht.
- Croft, W., J. Barddal, W. Hollmann, V. Sotirova, and C. Taoka (in press) “Revising Talmy’s Typological Classification of Complex Events”, in H.C. Boas, ed., *Contrastive Construction Grammar*, John Benjamins, Amsterdam.
- Cummins, S. (1996) “Movement and Direction in French and English”, *Toronto Working Papers in Linguistics* 15, University of Toronto, Toronto, Canada, 31-54.
- Cummins, S. (1998) “Le mouvement directionnel dans une perspective d’analyse monosémique”, *Langues et Linguistique* 24, 47-66.
- Estigarribia, B. and B. Levin (2007) “When *under* Means ‘under to’: Evidence for a Unified Locational Semantics for English Prepositions”, handout, 8th Semantics Fest.
- Fábregas, A. (2007) “The Exhaustive Lexicalisation Principle”, *Nordlyd: Tromsø Working Papers in Linguistics* 34:2, 165-199.
- Filipović, L. (2007) *Talking about Motion: A Crosslinguistic Investigation of Lexicalization Patterns*, John Benjamins, Amsterdam.
- Folli, R. and G. Ramchand (2005) “Prepositions and Results in Italian and English: An Analysis from Event Decomposition”, in H. Verkuyl, H. De Swart, and A. van Hout, eds., *Perspectives on Aspect*, Kluwer Academic Publishers, Dordrecht, 81-105.
- Gehrke, B. (2006) “Putting Path in Place”, in E. Puig-Waldmüller, ed., *Proceedings of Sinn und Bedeutung* 11, 244-260.
- Gehrke, B. (2008) *Ps in Motion: On the Semantics and Syntax of P Elements and Motion Events*, LOT Dissertation Series, Netherlands Graduate School of Linguistics.
- Higginbotham, J. (2000) “Accomplishments”, *Proceedings of GLOW in Asia II*, Nanzan University, Nagoya, Japan, 72-82.
- Jones, M.A. (1983) “Speculations on the Expression of Movement in French”, in J. Durand, ed., *A Festschrift for Peter Wexler*, Univ. of Essex Language Centre Occasional Papers 27, 165-194.

- Jones, M.A. (1996) *Foundations of French Syntax*, Cambridge University Press, Cambridge, UK.
- Kopecka, A. (2009) "L'expression du déplacement en français: l'interaction des facteurs sémantiques, aspectuels et pragmatiques dans la construction du sens spatial", *Langages* 173, 54-77.
- Levin, B. (1993) *English Verb Classes and Alternations*, University of Chicago Press, Chicago, IL.
- Malt, B.C., S.P. Gennari, M. Imai, E. Ameal, N. Tsuda, and A. Majid (2008) "Talking about Walking: Biomechanics and the Language of Locomotion", *Psychological Science* 19, 232-240.
- Martínez Vázquez, M. (2001) "Delimited Events in English and Spanish", *Estudios Ingleses de la Universidad Complutense* 9, 31-59.
- Mateu, J. (2008) "On the I-syntax of Directionality/Resultativity: The Case of Germanic Preverbs", in A. Asbury, J. Dotlačil, B. Gehrke, and R. Nouwen, eds., *Syntax and Semantics of Spatial P*, John Benjamins, Amsterdam, 221-250.
- Melka, F. (2003) "Verbes de mouvement et verbes résultatifs en langues romanes et germaniques", in F. Sánchez Miret, ed., *Actas del XXIII Congreso Internacional de Lingüística y Filología Románica* vol 2/2, Niemeyer, Tübingen, 55-63.
- Nikitina, T. (2008) "Pragmatic Factors and Variation in the Expression of Spatial Goals: The Case of *into* vs. *in*", in A. Asbury, J. Dotlačil, B. Gehrke, and R. Nouwen, eds., *Syntax and Semantics of Spatial P*, John Benjamins, Amsterdam, 175-209.
- Perlmutter, D.M. (1978) "Impersonal Passives and the Unaccusative Hypothesis", *BLS* 4, 157-189.
- Rappaport Hovav, M. and B. Levin (2008) "Lexicalized Manner and Result Are in Complementary Distribution", handout, 24th Annual Conference of the Israel Association for Theoretical Linguistics.
- Rosen, C. (1981) *The Relational Structure of Reflexive Clauses: Evidence from Italian*, Doctoral dissertation, Harvard University, Cambridge, MA.
- Slobin, D.I. (2000) "Verbalized Events: A Dynamic Approach to Linguistic Relativity and Determinism", in S. Niemeier and R. Dirven, eds., *Evidence for Linguistic Relativity*, John Benjamins, Amsterdam, 107-138.
- Slobin, D.I. (2006) "What Makes Manner of Motion Salient? Explorations in Linguistic Typology, Discourse, and Cognition", in M. Hickmann and S. Robert, eds., *Space in Languages: Linguistic Systems and Cognitive Categories*, John Benjamins, Amsterdam, 59-81.
- Snell-Hornby, M. (1983) *Verb Descriptivity in German and English*, Carl Winter, Heidelberg.
- Son, M. (2007) "Directionality and Resultativity: The Cross-linguistic Correlation Revisited", *Nordlyd: Tromsø Working Papers in Linguistics* 34:2, 126-164.
- Song, G. (1997) *Cross-Linguistic Differences in the Expression of Motion Events and Their Implications for Second Language Acquisition*, Doctoral dissertation, Northwestern University, Evanston, IL.
- Svenonius, P. (2004) "Spatial P in English", ms., University of Tromsø, Tromsø, Norway.
- Talmy, L. (1975) "Semantics and Syntax of Motion", in J.P. Kimball, ed., *Syntax and Semantics* 4, Academic Press, New York, NY, 181-238.
- Talmy, L. (1985) "Lexicalization Patterns: Semantic Structure in Lexical Forms", in T. Shopen, ed., *Language Typology and Syntactic Description 3: Grammatical Categories and the Lexicon*, Cambridge University Press, Cambridge, UK, 57-149.
- Talmy, L. (2000) *Towards a Cognitive Semantics II: Typology and Process in Concept Structuring*, MIT Press, Cambridge, MA.
- Thomas, E. (2004) "On 'Syntactic' versus 'Semantic' Telicity: Evidence from *in* and *on*", *Belgian Journal of Linguistics* 18, 145-166.
- Tungseth, M. (2005) "PP, FP, and Telic/Atelic Distinction in Norwegian Motion Constructions", in P. Kempchinsky and R. Slabakova, eds., *Aspectual Inquiries*, Springer, Dordrecht, 147-168.
- Tungseth, M.E. (2008) *Verbal Prepositions and Argument Structure: Path, Place and Possession in Norwegian*, John Benjamins, Amsterdam.
- Tutton, M. (2009) "When *In* Means *Into*: Towards an Understanding of Boundary-crossing *in*", *Journal of English Linguistics* 37, 5-27.
- Zubizarreta, M.L. and E. Oh (2007) *On the Syntactic Composition of Manner and Motion*, MIT Press, Cambridge, MA.