HUMAN
COGNITIVE
PROCESSING 69

# Broader Perspectives on Motion Event Descriptions

Edited by
Yo Matsumoto
Kazuhiro Kawachi

John Benjamins Publishing Company

Broader Perspectives on Motion Event Descriptions

Human Cognitive Processing (HCP)

Cognitive Foundations of Language Structure and Use

ISSN 1387-6724

This book series is a forum for interdisciplinary research on the grammatical structure, semantic organization, and communicative function of language(s), and their anchoring in human cognitive faculties.

For an overview of all books published in this series, please see
benjamins.com/catalog/hcp

Editors

Volume 69

Broader Perspectives on Motion Event Descriptions
Edited by Yo Matsumoto and Kazuhiro Kawachi

Broader Perspectives on Motion Event Descriptions

Edited by

Yo Matsumoto

National Institute for Japanese Language and Linguistics

Kazuhiro Kawachi

National Defense Academy of Japan

John Benjamins Publishing Company

Amsterdam / Philadelphia

∞™ The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI z39.48-1984.

Table of contents

Preface

This volume presents a collection of papers written by those who gathered at the theme session "Typology of motion descriptions in broader perspective: Going beyond motion to caused motion and vision" held at the 11th International Cognitive Linguistics Conference in Xi'an, China, 11–16 July 2011. Some chapters are completely revised versions of the papers presented at the session, reflecting extensive discussion among the researchers since then; other chapters are newly written on the basis of research that shares the spirit of the original session. We would like to thank the series editor Linda Thornburg for her patience and encouragement, and anonymous reviewers for John Benjamins for their extensive suggestions for revision. We are also grateful to Allison Adelman for her role in improving each chapter. Finally, we acknowledge our debt to the National Institute for Japanese Language and Linguistics (NINJAL) for its support of the publication of this volume. All chapters except Chapters 3 and 8 contain the research results of the NINJAL project on Motion Event Descriptions across Languages, which is a part of a larger NINJAL collaborative project 'Cross-linguistic Studies of Japanese Prosody and Grammar: Verb Semantics.'

Yo Matsumoto
Kazuhiro Kawachi
January 2020

Motion event descriptions in broader perspective

Yo Matsumoto and Kazuhiro Kawachi

National Institute for Japanese Language and Linguistics /
National Defense Academy of Japan

1. General statement

The patterns that one can find in the linguistic representation of motion events have been a target of extensive research in recent years. Motion is a ubiquitous phenomenon in our daily lives, and human language has universally developed devices for describing it. Crosslinguistic studies of patterns of the representation of motion events have revealed commonalities and variations across languages. The starting point of this trend of research is Len Talmy's proposals concerning the linguistic typology of motion event representation (Talmy 1985, 1991, 2000, 2009, 2012, 2016), which have been discussed extensively in the literature over the years (e.g. Slobin 1996, 2000, 2004, 2006, 2017; Matsumoto 1997, 2003, 2017a, d, 2018; Wälchli 2001; Kopecka 2004; Hickmann and Hendricks 2006; Filipović 2007; Bohnemeyer et al. 2007; Zlatev 2007; Ibarretxe-Antuñano 2009, 2017; Croft et al. 2010; Beavers et al. 2010; Goschler and Stefanowitsch 2013; Fagard et al. 2013, 2017; Levin and Rappaport Hovav 2013; Blomberg 2014; Ibarretxe-Antuñano and Hijazo-Gascón 2015; Kawachi 2016; Fortis and Vittrant 2016).

In this volume, we bring forward new perspectives on motion event descriptions in light of a broader range of data involving different kinds of motion events hitherto understudied. Motion as an external event is defined as the change of location of an entity relative to some other entity (the case of "translocative" motion in Blomberg (2014)). Based on the speaker's mental representations of such events, linguistic expressions are formed. Most works in this field of research have centered on sentences with a moving entity expressed as the subject and with Manner and Path of motion described in a single clause (e.g. *Carey is running down the hill*). Descriptions of motion events, however, often include more information, such as the speaker's perspective on the scene (e.g. *They came running in*). Motion events

can also be described together with the causation of the event (e.g. *Susan threw a stone out into the field*). Motion is also implicit in descriptions of events involving vision and speech (e.g. *Peter looked down into the cave; Bill shouted across the table*). The linguistic patterns found in such a broader range of motion event descriptions can be examined to test the validity of previous proposals, which were centered around motion events in a narrower sense. In addition, new perspectives can also be brought about by the examination of understudied languages and the use of new methodologies.

This introduction summarizes current issues regarding the typology of motion event descriptions, and presents recent developments related to the background of the chapters in this via volume. It also provides a synopsis of each chapter to show their relevance to each other.

2.   Talmy's motion typology

2.1   Overview of Talmy's motion typology

Talmy's (1985, 1991, 2000) proposals on the typology of motion event description have been the most influential among studies on motion expressions. His proposals are based on the patterns of mapping between the components of a motion event and constituent types in a sentence describing it. Consider the event described by the following sentence.

(1)   *Peter ran down (the slope) into the house.*

A motion event crucially involves a Figure or a moving entity (represented by *Peter* in (1)), which follows a certain Path. The Path, expressed by the prepositions *down* and *into* in (1), constitutes the schematic core of a motion. The Path relates a Figure to a Ground. A Ground is an entity with respect to which the location of a Figure is defined. In (1), *the slope* and *the house* are Grounds. In Talmy (2000: 312), the Figure is more technically defined as "a moving or conceptually movable entity whose path, site, or orientation is conceived as a variable, the particular value of which is the relevant issue" and the Ground, "a reference entity, one that has a stationary setting relative to a reference frame, with respect to which the Figure's path, site, or orientation is characterized." A motion event description often involves a "secondary event," such as the Manner of motion (Talmy 1985, 1991). In (1), the verb *ran* represents the Manner of motion involved.

Talmy's typology of motion event descriptions has taken two forms. One proposed in Talmy (1985) is based on the difference in the semantic components encoded in the main verb. This is the typology of lexicalization patterns (Talmy 1985).

In this typology, languages are classified into three different categories according to which of the three components, Path, Manner (or some other "co-event"), and Figure, is "conflated" with the fact of motion into the meaning of the verb.

Talmy's (1991, 2000) later typology of event integration as it applies to motion events focuses on how the Path, which is the core schema of motion, is encoded. He proposes that languages can be divided into two major types in this regard: "verb-framed" languages and "satellite-framed" languages. Verb-framed languages describe the Path in the main verb, while satellite-framed languages describe it in what he calls a "satellite", which is an element that is in a sister relation to the verb root (Talmy 2000: 102). The satellites include verb affixes (e.g. *aus-* in *aus-gehen* in German) and verb particles (e.g. *down* in *run down* in English). Examples of verb-framed languages include Spanish, Hebrew, and Japanese, while those of satellite-framed languages include English, Russian, and Atsugewi. A Japanese example is given in (2), in which the path verb *ori* is used as the main verb, with a manner verb *kake* modifying it in a verbal compound, exemplifying the verb-framed description pattern.

(2) *Piitaa-wa (saka-o)   kake-ori-ta.*
     Peter-TOP slope-ACC run-descend-PST
     'Peter ran down the slope.'

In this typology, Talmy's interest is in a complex motion event consisting of a framing event (a main event; i.e. motion along a path) and a co-event (a subordinate event; e.g. manner of motion, means of causation). It is essential that these two events are integrated into a single "macro-event", described in a single clause. For this reason Talmy considers only mono-clausal sentences that include both a framing event of motion and its co-event for the purpose of the typological discussion.

The term "frame" is used to represent the crucial role of the core schema within a macro-event. According to Talmy, the core schema represents "the upshot – relative to the whole macro-event" in the sense that it determines the overall temporal and spatial frameworks, the argument structure, and the syntactic complement structure (Talmy 2000: 219). It is also the framing event "that is asserted in a positive declarative sentence, that is denied under negation, that is demanded in an imperative, and that is asked about in an interrogative" (Talmy 2000: 219). Given the importance of framing, Talmy's typology of event integration is often also called the framing typology (e.g. Talmy 2016).

This cognitive process of event integration, according to Talmy, is the conceptual integration of an event as a unitary entity that could be more analytically conceptualized as complex. A linguistic result of this process is the monoclausal expression of an event that could be expressed by means of a more analytic, complex syntactic structure. He argues that there is a certain set of events that tend to be

recurrently conceptualized as unitary events and expressed in single clauses across languages (Talmy 2000: 215–216).[1]

According to Talmy (2000), there are different kinds of Path components: the main components of Path are the Vector, the Conformation, and the Deictic. Vector refers to a Path phase leading from a Source (FROM), leading to a Goal (TO), or one in between (VIA); these "comprise the three basic types of arrival, traversal and departure" that a Figure can execute with respect to a Ground (Talmy 2000: 53). A Path can be semantically complex, involving a Vector plus another component called the Conformation (e.g. IN, ON), which represents a spatial relationship between Figure and Ground. The preposition *into* indicates that the goal of motion is inside the Ground. Thus, its meaning has two semantic components, which can be represented as TO and IN (cf. Bennett 1975; Jackendoff 1983; Zlatev 2007). The former represents a Vector, and the latter, a Conformation. The Deictic component of the Path specifies the relation to the deictic center, which is typically the location of the speaker. Deictic categories include HITHER and THITHER, namely, 'toward the deictic center' and 'in a direction other than toward the deictic center'.

Most crosslinguistic studies on motion expressions have focused on manner of motion as a relation that a co-event bears to a main motion event (e.g., Aske 1989; Beavers, Levin, and Tham 2010; Croft et al. 2010; Özçalışkan and Slobin 2003; Schaefer 1989; Slobin 1996, 2004, 2006; Wienold and Schwarze 2002). However, as Talmy describes it, the relations of co-events to a main motion event are not restricted to manner, but can include various relations such as cause, concurrent result, concomitance, precursion, enablement, reverse enablement, and subsequence. Co-events other than manner and (to some extent) cause and concurrent result, however, are rarely discussed in the literature.

Talmy's framing typology is also often linked to several other differences of motion event descriptions among languages (Matsumoto 2003). It is claimed to underlie the difference in the lexical inventory of path and manner verbs (e.g. Wienold 1995; Wienold and Schwarze 2002; Slobin 2004; Verkerk 2013, 2014): satellite-framed languages are suggested to have a larger inventory of manner verbs and a smaller inventory of path verbs than verb-framed languages. The typology is also often linked to the manner verb's ability vs. inability to take a goal complement (Kageyama 1997; Zubizaretta and Oh 2007; Beavers et al. 2010): manner verbs in many verb-framed languages usually cannot co-occur with a goal phrase (e.g. *ie-ni aruk-u* (house-to walk) in Japanese; see Aske 1989 for Spanish).

---

1.   According to Talmy, motion is only one of the five event domains in which event integration occurs. The other domains are state change, realization, temporal contouring (aspect), and action correlation. Domains other than motion and state change have rarely been studied, but see Kawachi (2016) for a rare examination of all these domains in African languages.

Though this phenomenon is found in many verb-framed languages (e.g. Japanese, Spanish, French), it in fact does not generalize to other verb-framed languages such as Turkish and Indonesian (Matsumoto 2017d, 2018).

2.2   Questions and extensions

2.2.1   *Terms and assumptions*

Problems with Talmy's typology have been pointed out in the literature. One concerns the notions of "verb" and "satellite". The term satellite is too restrictive to cover the full range of path-coding positions, which include case markers and adpositions that do not strictly count as satellites (Matsumoto 2003; see also Talmy 2016 in this regard).[2] Talmy's "verb" does not refer to the lexical category of the verb; it refers to the main verb only, and the verbs in subordinate positions do not count as "verbs" (see Matsumoto 2003). These issues have led Matsumoto (2003) and Croft et al. (2010) to argue that the typology of motion event descriptions should be stated in terms of whether Path is coded in the main verb root or other elements. Matsumoto (2017d, 2018) calls the contrast "head path coding" vs. "head-external path coding," which is adopted in some chapters in this volume. (According to him, the "head" is defined as an element that determines the crucial aspects of the argument structure of the sentence, most importantly the subject.)[3] Slobin (2017) has recently used the terms PIV (Path-in-Verb) and PIN (Path-in-NonVerb) languages to refer to the contrast observed by Matsumoto and Croft.

Some of the assumptions that Talmy makes in his typology have also been called into question. One concerns the location of Path specification. Talmy assumes that Path is specified in one place in a sentence, but this does not necessarily hold in all languages. Sinha and Kuteva (1995) pointed out that the same path notion can in fact be specified doubly in a clause, overtly distributed in more than one place. In the Japanese example (3), the notion of INTO is doubly marked, once on a nominal representing a goal and once in the main verb (the second verb of a compound verb). In such a case it could be said that the event is framed both in the main verb and in another element.

(3) *hako-no **naka-ni**   booru-o   nage-**ire**-ta.*
     box-GEN inside-GOAL ball-ACC throw-make.enter-PST
     'threw a ball into a box'

---

2. See Fortis and Vittrant (2016) for an interesting classification of path-coding positions.

3. When a sentence involves a verb complex consisting of more than one verb, the verb determining the argument structure is regarded as the head.

Another assumption questioned is the integration into a mono-clausal structure. Talmy's idea of event integration presupposes that various subevents of motion are integrated into a single clause. However, Croft et al. (2010) point out that some languages frequently utilize complex sentences involving coordination and subordination to represent motion events (see also Bohnemeyer and Van Valin 2017).

Talmy's attention to sentences representing a macro-event with Path and a co-event also invites questions. A large proportion of sentences describing a motion event may be outside the scope of typological discussion when attention is restricted this way. Matsumoto's (2017c) corpus study of English motion event descriptions in the COBUILD corpus has revealed that only 20.3% of the examples examined included a manner verb with path prepositions or particles. Under these circumstances, consideration of only macro-events may not truly characterize how a human language describes motion events. In languages such as Emai, Korean, and Japanese, the manner of walking, presumably the manner that most frequently occurs in the real world, is usually not overtly mentioned, and path verbs or deictic verbs are very often used as main verbs without manner specification (e.g. Schaefer 1989; Oh 2003; see Akita and Matsumoto this volume).[4] Such sentences should not be called verb-framed, given that they do not represent macro-events, while Matsumoto (2017a, 2018) sees no problem in treating them as constituting head path-coding pattern.

Finally, the term Path needs to be clarified. First, it must be recognized that Talmy's notion of Path is different from what is often called the Trajectory of motion, which is the sequence of the positions a Figure occupies in motion. Such a trajectory is described by a prepositional phrase (not a preposition alone), or often more than one prepositional phrase in a sequence, as in (4).

(4)   Bill ran [[down the hill] [into the garden]].

Talmy's Path is a schema representing the spatial relationship of a Figure and some Ground, corresponding to the meanings of prepositions, not prepositional phrases.

Some questions have been raised as to Talmy's three components of Path. Unlike Vector, Conformation categories such as IN, ON, etc. do not comprise a Path by themselves, but are used in combination with one of the Vectors such as TO, FROM, and VIA (e.g., INTO=TO IN). In addition, it is not clear which component some Path notions belong to. For example, it is not clear how to categorize Directions such as UP; Zlatev (2007) treats Directions as a separate category from his Path. In spite of all this, many scholars continue to use the term Path to refer to

---

4. This phenomenon is found even in some so-called satellite-framed or head-external path-coding languages (see Fagard, Stosic, and Cerruti 2017).

a group of schemas covering Vector, Vector+Conformation, and Directions, and this custom is followed in most chapters of this volume.

Deixis is a combination of a Vector plus a (very special) Ground typically the speaker, with HITHER defined as TOWARD + the speaker (deictic center). For this reason, it is not so much a Path schema as a property of a Trajectory. We will see that Deixis is expressed quite differently from Path in this volume.

2.2.2   *Manner salience and the third type: Slobin's contributions*

The current interest in motion event descriptions has been broadened by the works of Slobin (1996, 2000, 2004). One of Slobin's contributions is the introduction of a new methodology for the study of motion event descriptions. Talmy's study, which targeted "colloquial and pervasive" expressions within individual languages, was mainly based on native speakers' introspection. Slobin has introduced parallel translation corpora and crosslinguistic experiments to the discussion of Talmy's typology. This broadened methodology has incorporated quantitative aspects of motion event descriptions into the discussion. One of Slobin's proposals based on quantitative data concerns the "salience" or frequencies of manner specifications in discourse (Slobin 1996, 2000, 2006). Slobin (1996, 2000, 2006) argues that some languages are more "manner salient" than others, in that the speakers of these languages refer to manner of motion more often than those of other languages. Slobin (1996) suggests that satellite-framed languages tend to be manner salient because manner in those languages is expressed in the obligatorily used main verb rather than through optional elements such as participles, and so manner can be easily specified (see also Talmy 2000; Ohara 2002; Özçalışkan and Slobin 2003; Slobin 2006; Cardini 2008; see Berthele 2013 for a differing view). Salience is often discussed with respect to Path. Ibarretxe-Antuñano (2009) discusses differences in the number of path phrases a verb can take in the description of motion events (see also Bohnemeyer et al. 2007; Hijazo-Gascón and Ibarretxe-Antuñano 2013). Koga (2017) also discusses Deixis salience in languages, or how often Deixis is coded in the motion event descriptions in discourse (see also Morita this volume).

Talmy's binary classification has also invited some discussion. Slobin (2004) has proposed that there is a need to recognize a third type of language in addition to Talmy's two types. Talmy's typology presupposes that there is one main verb in a clause, and that Path can be in this position or some other position. Slobin, however, observes that in some languages a clause can have both Manner and Path expressed in elements that are of equal status, as in serial verb constructions, and in such cases neither Manner nor Path is subordinate to the other, unlike in verb-framed and satellite-framed languages. He terms this type as "equipollently framed" languages, and claims that Thai, Mandarin Chinese, Jaminjung, and Klamath are of this type (see also Zlatev and Yangklang 2004; Imbert 2012; Ameka and Essegbey 2013).

In Thai, for example, a motion event is typically described in terms of serial verb construction, in which a manner verb and a path verb cooccur without a formal marker on verbs indicating which one is the main verb (e.g., *wîŋ khûn banday pay* (run ascend stairs go) 'run up the stairs thither'). Evidence for such an analysis of equal status must be carefully evaluated. Talmy (2009, 2016) provides evidence suggesting that Mandarin Chinese and Atsugewi (which has the same pattern as Klamath) are in fact satellite-framed, based on his criteria for determining the main verb (see also Lamarre 2008, 2017 for a concurrent view on Mandarin Chinese).

2.2.3   Intralinguistic variation

Finally, languages can exhibit intralinguistic variation in the way they describe Path (Schaefer 1989; Talmy 2000; Matsumoto 2001; Kopecka 2004; Croft et al. 2010; Berthele 2013). Talmy (2000: 64–67) recognizes three ways in which different patterns coexist in a language: (i) split systems in which languages employ different patterns for different types of events, (ii) parallel systems in which languages employ different patterns for the same types of events, and (iii) intermixed systems in which languages randomly use different patterns. Of linguistic interest are the first two. In a parallel system two or more patterns coexist exhibiting sociolinguistic variations involving register and individual differences (see Berthele 2013).

A split in the path coding pattern can occur due to different factors. One factor known to affect different choices within a language is the particular type of path described. It has been observed that some verb-framed languages exhibit a pattern similar to satellite-framed languages when atelic path phrases are used, as in the Spanish example in (5).

(5)   *La botella flotó   hacia   la   cueva.*   (Aske 1989: 3)
      the bottle floated toward the cave
      'The bottle floated toward the cave.'

In contrast, some other types of paths in verb-framed languages are claimed to have preferred or obligatory expression with a path verb (used as the main verb). One example is a boundary-crossing path (i.e., INTO, ACROSS, OVER) (see Aske 1989; Slobin and Hoiting 1994), and another is a vertical path (Matsumoto et al. 2013). Another difference is often found between the expressions of such path categories as UP, TO, and INTO and those of Deixis, which has been treated as a subcategory of Path (Talmy 2000). This will be discussed in Section 3.2.

An additional source of a split within a language involves types of motion event descriptions based on different event types. The majority of previous studies have looked at what may be called Self-motion (Talmy's non-agentive motion and self-agentive motion), where the Figure appears in the subject of the sentence. Expressions of Caused motion may be different in Path-coding patterns. Choi and

Bowerman (1991), for example, point out that Korean uses complex predicates consisting of a manner verb, a path verb, and a deictic verb for Self-motion, as in (6a); however, for Caused motion, the main verb encodes a Means of causation, with Path expressed in a local noun and a postposition, as in (6b).[5]

(6) a. *Yohan-i   pang-ey   ttwui-e tul-e   o-ass-ta.*
         John-NOM room-LOC run-PRT enter-PRT come-PST-DECL
         'John came running into the room.'
     b. *Yohan-i   yelswey-lul selhap-an-ey   tency-ess-ta.*
         John-NOM key-ACC   drawer-inside-LOC throw-PST-DECL
         'John threw the key into the drawer.'

In French, some paths are encoded in the main verb in Self-motion expressions, but not in those for Caused motion. This is seen with respect to the INTO path: it is represented by the verb *entrer* in Self-motion but is not usually described by a verb in Caused motion (see Hickmann and Hendricks 2006; Morita and Ishibashi 2017), as in (7), in which the preposition *dans* 'in' is used with a causative verb.

(7) French   (Morita and Ishibashi 2017)
     a. *Et ils remettent   les poires **dans** le   panier.*
         and they put.back.PRE the pears in   the basket
         'And they are putting the pears back into the basket.'
     b. *Et   maintenant ils   sont tous les trois à lancer   tous les poires*
         and now   they are all   the three to throw.INF all   the pears
         ***dans** le   panier.*
         in   the basket
         'Now all three (of them) are throwing the pears into the basket.'

The existence of such intralinguistic variation of Path-coding patterns suggests that there are degrees with which a language belongs to a certain typological type. This means that within the same typological type, languages differ in how pure they are in terms of the typological type (Ibarretxe-Antuñano 2004, 2009; Sugiyama 2005; Filipović 2007; Morita 2011; Berthele 2013; Fagard, Stosic, and Cerruti 2017).

---

5. In the "co-motional" subtype of Caused motion (see 3.1), a deictic verb can occur as the last verb to represent the motion of the subject (see Im 2001).

3.   Broader perspectives

Given previous findings, it is necessary to look at a wider variety of motion event descriptions in order to truthfully characterize their patterns crosslinguistically. The chapters of this volume try to examine a wider range of data in three respects: (i) different types of motion event descriptions, (ii) Deixis and different types of Path, and (iii) different types of Manner.

3.1   Types of motion event descriptions

First, more diverse types of motion event descriptions can be discussed in relation to typology. By the types of motion event descriptions we mean different linguistic constructions reflecting our conceptualizations of motion events that occur around us. Although Talmy's (1991) typology of event integration was originally proposed to treat a broad range of linguistic expressions, the majority of the typological work in recent years has been based on the description of "motion events" in a narrow sense, namely Self-motion – examples of physical motion with the moving entity expressed as the subject, as exemplified in (8).

(8)   Self-motion
    a.   *Peter ran up the hill.*   (self-agentive or self-controlled motion)
    b.   *The ball rolled down the slope.*   (non-agentive or spontaneous motion)

Self-motion includes what Talmy calls self-agentive motion (also called self-controlled motion), e.g. (8a), in which an agentive Figure moves his/her own body, and non-agentive motion (also called spontaneous motion), e.g. (8b), in which a non-agentive entity moves without any volition to move.

    Another type of motion event description is Caused motion, in which a causer (described in the subject) induces a change of the location of an entity (described in the object position). There are different ways in which the causation of motion is executed: at least four subtypes may be identified (Matsumoto 2018; cf. Kopecka and Narasimhan 2012). They are exemplified in (9).

(9)   Caused motion (also called agentive motion)
    a.   *We brought our little brother to the stadium.*   (co-motional)
    b.   *They picked up some stones on the way.*   (controlled)
    c.   *Don't throw garbage out the window.*   (ballistic)
    d.   *They asked her in.*   (directive)

In "co-motional" or carrying-type Caused motion, the causer moves together with the moving object. The causer of the "controlled" or handling-type Caused motion continues to act on the causee as it moves, as in the manual manipulation of an object. In the "ballistic" Caused motion, the causer acts on the causee only at the beginning of its motion, as in throwing. The last subtype is directive, in which a causer induces motion on the part of the causee by means of the causer's verbal or some other directive action.

Within a language, Path may be encoded in different ways in different types of motion event descriptions. For example, the head coding of Path (framing by the main verb root) is less frequently observed in Caused motion than in Self-motion in some languages, as seen in the Korean and French examples in (6) and (7). Variations are also found in the different subtypes of Caused motion within a language. For example, controlled Caused motion (cf. (9b)) often involves the use of general verbs of putting and taking in many languages (Kopecka and Narasimhan 2012). Co-motional caused motion is often expressed as a type of Self-motion in languages with a multiple-verb complex, as in a sentence like 'I went holding a book' in Japanese (Matsumoto 1997, 2017b, 2018).

In addition to these two major types, there is another, relatively minor type of motion event description in which a moving entity is not overtly expressed. This pattern is found in the representation of a certain kind of "fictive" motion. Often we conceive an event that does not involve actual motion as if it does, and construct linguistic expressions based on this conceptualization. There are different subtypes of such fictive motion expressions (Talmy 2000; see also Matsumoto 1986; Blomberg 2014; Matlock and Bergmann 2014). One type of fictive motion expression involves the "emanation" of a nonconcrete entity (Talmy 1996, 2000; see also Takahashi 2000; Matsumoto 2001, 2004; Slobin 2009; Cifuentes-Férez 2014; Kemmer 2014; Ma 2016; Cappelle this volume; Kawachi this volume), as in (10).

(10) Fictive motion along emanation path   (cf. Talmy 2000)
    a. *She looked into the hole.*   (visual motion)
    b. *He shouted out the window.*   (verbal motion)
    c. *The sun shone into the room.*   (light motion)

In (10a), for example, a gaze as a fictive Figure moves along the Path indicated, starting from the eyes of the observer (see Gruber 1967). The fictive Figure is unexpressed as an argument or adjunct of a verb, and in this regard descriptions like those in (10) belong to a different type from Self-motion and Caused motion, in which the Figure is expressed in the subject or object. We call this type Fictive motion along an emanation path. Talmy discusses this type of fictive motion but not in the context of motion typology. It is thus an interesting question how such fictive motion should be treated in the typology.

3.2   Deixis

In addition to these different types of motion event descriptions, the scope of our discussion can be broadened by looking at Talmy's different Path components. As mentioned in Section 2.1, according to Talmy, Path has three components, the Vector (e.g. FROM, TO), the Conformation (e.g. INSIDE, OUTSIDE), and the Deictic (e.g. HITHER, THITHER; Talmy 2000: 53). However, it is not clear whether these components are expressed in the same way. It is therefore worthwhile to examine the difference in the patterns of expressing Talmy's different Path components within a language and across languages.

In this regard, we pay special attention to Deixis, which is a relatively neglected aspect of motion event descriptions (see Filipović 2010; Matsumoto et al. 2017). As pointed out in 2.1, Deixis is in fact a Vector plus a special Ground, and in this sense it is conceptually different from Path. In fact, Deictic expressions exhibit a set of behaviors distinct from the expressions of Directions (e.g., UP), Vector (e.g., TO), or Vector plus Conformation (e.g., INTO). First, there is a difference in terms of their lexicalization into verbs. Deictic verbs and path verbs differ in their status in the lexical repertoire of a language, with the former commonly found even in languages that have a poor repertoire of path verbs (e.g. German, English; see Verkerk 2014; Wälchli and Sölling 2013). Second, Deixis often has its own morphosyntactic slot (Koga 2017; Matsumoto 1997, 2013, 2017a, etc.). For example, in Japanese and Korean, a verb complex may be composed of up to three verbs, arranged in a specific order of Manner-Path-Deixis, as in *hasit-te de-te ku-ru* (run-CONJ exit-CONJ come-NPST) in Japanese (see (6a) for Korean). Deixis tends to occupy a special slot in serial verbs, as in Thai (Thepkanjana 1986; Zlatev and Yangklang 2004; Takahashi 2017). In other languages, Deixis is indicated in a verbal affix; this is often in a slot distinct from other Path categories in languages like German (e.g. Dewell 2015), Jakaltek (Craig 1993), and Kupsapiny (Kawachi 2014). Third, how often Deixis is mentioned in discourse appears to vary from language to language, in a way that does not correlate with how often Path is expressed in individual languages. Koga (2017) argues that German and Japanese are Deixis salient, while Russian and French are not (note that German and Russian are rich in Path while Japanese and French are not). All this may suggest that there is something special about the coding of Deixis among Talmy's different Path categories. An examination of different languages in this regard may reveal interesting patterns of crosslinguistic commonalities and variations.

3.3   Types of Manner

Finally, in the domain of Manner of motion, more attention must be paid to different types of manner expressions. Manner verbs are often divided into two types: general (e.g. *walk, run*) and specific (e.g. *stride, skip*) (e.g. Slobin 1997, 2000; Boas 2008; Malt et al. 2014; Slobin et al. 2014). In addition, some languages use ideophones or mimetics to represent certain manners (e.g. Ibarretxe-Antuñano 2006; Toratani 2012; Akita 2017), especially the sounds that accompany motion (e.g. the rattling sounds of a train), which have attracted limited attention. These different types of manner expressions may be different in terms of positions they occur in (Talmy 2000: 65), frequencies of use (Oh 2003), and size of inventory (Slobin 2000; Verkerk 2013) (see Akita and Matsumoto this volume for more details). A careful examination of the valid classification of manner expressions and their different behaviors will add to our understanding of motion event descriptions.

4.   The chapters in this volume

Each chapter in this volume deals with one or more of the issues mentioned in Section 2.2, using a broader range of motion event description data, as described in Section 3. The chapters are divided into two parts.

Part I examines the expressions of Path and Deixis in individual languages. In the first chapter titled "Distinct coding of Deixis and Path in Kathmandu Newar", **Ikuko Matsuse** shows that Newar, a Tibeto-Burman language of Nepal, expresses a deictic component of motion events prominently in two respects. First, Deixis is very frequently expressed, and motion event descriptions usually contain a deictic verb both for Self-motion and Caused motion, except for a certain subtype of the latter. Second, the coding position of Deixis is crucially different from that of Path. Path notions such as TO, INTO, and UP are expressed in case markers and adverbs, while Deixis is specified in the main verb. She argues that for this reason Deixis must be separated from Path in characterizing the typological nature of a language. Her findings are potentially very important in reconsidering the previously dominant typology, in which Deixis is regarded as a component of Path.

Kiyoko Eguchi, in her chapter titled "Patterns of deictic expression in Hungarian motion event descriptions", also examines expressions of Deixis in Hungarian, which exhibits distributed specification in different positions in a clause. She argues that Hungarian is a prototypical satellite-framed language in which Path is coded in satellites and other "head-external" elements, such as preverbs, adverbs, postpositions, and case markers. However, she observes that Deixis is different in that it can be expressed in the main verb position as well as in satellites and

pronominals with a case marker. She examines Self-motion, Caused motion, and Fictive motion of vision in this regard, and reveals the circumstances under which Deixis is coded in the main verb. Her findings also show that contributions made by different Deixis-marking devices are semantically and pragmatically distinct, suggesting that those markers play different roles.

The next chapter by **Birgitta Meex**, "Patterns of path encoding in German", presents an analysis of the semantics of German "satellites", which in this chapter are prepositions, verbal particles, and verbal prefixes. Building on her previous work (Meex 2004), she first establishes different aspectual properties (summativity, plexity, boundedness, mutativity) that are relevant to the understanding of German path expressions, and then classifies these satellites or path expressions into seven path coding types (such as source, intended goal, complete traversal, etc.) in terms of these properties, based primarily on data concerning Self-motion without deixis. She then examines deictic paths to see whether the same kinds of distinctions can be established. She further examines the compatibility of each kind of path expression in caused and fictive motion, and concludes, anticipating the last chapter of this volume, that German path expressions are, generally speaking, representation-type neutral.

Kiyoko Takahashi's chapter, "Syntactic and semantic structures of Thai motion expressions", provides a detailed analysis of Thai motion event descriptions, in which she shows the patterns of serializing motion verbs of different categories. She argues that the analysis of Thai requires reference to finer-grained semantic subcategories of motion verbs than are usually assumed in the description of motion events in other languages (e.g. different kinds of path verbs based on their aspectual properties). She surveys the patterns of not just Self-motion (her self-controlled and spontaneous motion) but also different subtypes of Caused motion. Although this chapter is devoted purely to Thai, it provides an interesting example where languages can syntacticize different categories of verbs in their language-specific systems, about which researchers of other languages can learn.

In Part II, five chapters discuss crosslinguistic and theoretical issues. **Kimi Akita** and **Yo Matsumoto**'s chapter, "A fine-grained analysis of manner salience: Experimental evidence from Japanese and English", compares English and Japanese in terms of the manner salience. In this chapter they pay special attention to differences found among different types of manner expressions, including those representing sounds. First, they discuss their Japanese frog story data in comparison with the previously available English data. The comparison revealed predicted differences in the manner specification, but more importantly a large degree of variation depending on the particular scene described, pointing to a methodological problem. The results of a video-based experiment that compensate for this problem are examined to show that manner frequency depends on the particular type of

manner or the particular type of moving entity involved. In comparison to English speakers, Japanese speakers use "default" general expressions (e.g. verbs of walking) less often, and "expressive" manner expressions (phonologically unusual mimetics) more often, especially to describe the sounds that a moving object makes. The results suggest that a finer-grained analysis of manner expressions is necessary, and that factors other than the typology based on path-coding positions are required to account for manner salience.

The issue of frequencies is also taken up in **Takahiro Morita**'s chapter "Attraction of attention in perceived motion events weighed against typology and cognitive cost: An experimental study of French". In this chapter Morita discusses factors relevant to the choice of construction types and the frequency of the use of adjuncts in French motion descriptions. The adjuncts he discusses are mostly manner adjuncts, but they also include those representing Deixis, which plays an important role in his discussion. According to Talmy's characterization of French as a verb-framed language, French is expected to use the sentence pattern of Path expressed in the main verb (head) position. Furthermore, his principles concerning the correlation between the backgroundedness of a semantic component and the cognitive cost of expressing it suggest that those concepts expressed outside the main verb are indicated with restricted frequencies. The results of a production experiment he reports, however, were more complex than these predictions. To account for them Morita argues that the aspects of motion events that attract attention influence the choice of construction types and motivate the different frequencies of adjuncts expressing manner or deixis.

Kazuhiro Kawachi takes up the issue of visual motion in his chapter titled "Should Talmy's motion typology be expanded to visual motion?" He examines the expressions of visual motion in Sidaama, a Cushitic language of Ethiopia, in comparison to Self-motion (Kawachi's self-agentive and non-agentive motion) and Caused motion (his agentive motion) in the language. Kawachi first establishes the verb-framed pattern for Self-motion and Caused motion. He then shows that Sidaama expressions of visual motion deviate from the characteristic verb-framed pattern, and discusses why this is the case. His answer is that expressed events may not be regarded as macro-events, to which Talmy's typology applies. He also considers some other cases in which verb-framed languages similarly deviate from their usual pattern from this perspective. His proposal is bound to give rise to discussion in the field.

Bert Cappelle also discusses the representation of visual motion in his chapter "Looking into visual motion expressions in Dutch, English and French: How languages stick to well-trodden typological paths". As noted above, a description of visual motion makes reference to a fictive path along which the gaze moves. Yet, as is argued in this chapter, when one looks from one object to another, the gaze (while

still a fictive Figure) undergoes actual motion. Cappelle compares a children's story in English with its Dutch and French translations, and tests three hypotheses derived from previous research on visual paths. He shows how Dutch, which has a very broad range of path complement types used in the descriptions of physical motion, exhibits the same rich variety in descriptions of visual motion as in those of physical motion. He also argues that the French translation often does not have a verb-external specification of the Path in the descriptions of vision, but tries to preserve the verb-framed tendency by using a construction with a causative path verb and a nominal referring to a gaze. Finally, he points out that the French translation, as opposed to the Dutch translation and the English source text, does not use an elaborated sequence of paths, which is also consistent with the verb-framed nature of the language. This chapter is a rare and important contribution to the field in that it examines quantified data on visual motion.

Finally, in the chapter titled "Neutral and specialized path coding: Toward a new typology of path-coding devices and languages", **Yo Matsumoto** proposes a new typology of languages in terms of motion event descriptions. He classifies path expressions into two types based on whether they are used (1) *neutrally* to express Path in the three kinds of motion event representations, namely, Self-motion, Caused motion, and Fictive motion along an emanation path, or (2) *specifically* for one of these kinds of representations. The languages that prefer the former type of path expressions are neutral path-coding languages, and the languages that prefer the latter are specialized path-coding languages. He argues that these two types are prototypes at two extreme ends of a range, and that languages can be regarded as falling somewhere between them, in that languages can use both types of path expressions to some extent. Data are taken from a variety of languages including those studied in other chapters of this volume.

References

Akita, K. 2017. The typology of manner expressions: A preliminary look. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (39–60). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/hcp.59.03aki

Ameka, F., & Essegbey, J. 2013. Serialising languages: Satellite-framed, verb-framed or neither. *Ghana Journal of Linguistics*, 2(1), 19–38.

Aske, J. 1989. Path predicates in English and Spanish: A closer look. *Proceedings of the 15th Annual Meeting of the Berkeley Linguistics Society*, 1–14.

Beavers, J., B. Levin, & Tham, Sh. W. 2010. The typology of motion expressions revisited. *Journal of Linguistics*, 46, 331–377. https://doi.org/10.1017/S0022226709990272

Bennett, D. C. 1975. *Spatial and temporal uses of English prepositions: An essay in stratificational semantics*. London: Longman.

Berthele, Raphael. 2013. Disentangling manner and path: Evidence from varieties of German and Romance. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the coding of motion events* (55–75). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.03ber

Blomberg, J. 2014. *Motion in language and experience: Actual and non-actual motion in Swedish, French and Thai* (Travaux de l'Institut de Linguistique de Lund, Vol. 53): The Faculties of Humanities and Theology, Lund University.

Boas, H. C. 2008. Toward a frame-constructional approach to verb classification. *Revista Canaria de Estudios Ingleses*, 57, 17–48.

Bohnemeyer, J., Enfield, N. J., Essegbey, J., Ibarretxe-Antuñano, I., Kita, S., Lüpke, F., & Ameka, F. K. 2007. Principles of event segmentation in language: The case of motion events. *Language*, 83, 495–532. https://doi.org/10.1353/lan.2007.0116

Bohnemeyer, J., & Van Valin , Jr., R. D. 2017. The macro-event property and the layered structure of the clause. *Studies in Language*, 41(1), 142–197. https://doi.org/10.1075/sl.41.1.05van

Cardini, F.-E. 2008. Manner of motion saliency: An inquiry into Italian. *Cognitive Linguistics*, 19, 533–57. https://doi.org/10.1515/COGL.2008.021

Choi, S., & Bowerman, M. 1991. Learning to express motion events in English and Korean: The influence of language-specific lexicalization patterns. *Cognition*, 41(1/3), 83–121. https://doi.org/10.1016/0010-0277(91)90033-Z

Cifuentes-Férez, P. 2014. A closer look at Paths of vision, Manner of vision and their translation from English into Spanish. *Languages in Contrast*, 14(2), 214–250. https://doi.org/10.1075/lic.14.2.03cif

Craig, C. G. 1993. Jakaltek directionals: Their meaning and discourse function. *Languages of the World*, 7, 23–36.

Croft, W., Barðdal, J., Hollmann, W., Sotirova, V., & Taoka, C. 2010. Revising Talmy's typological classification of complex events. In H. Boas (Ed.), *Contrastive construction grammar* (201–235). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cal.10.09cro

Dewell, R. B. 2015. *The semantics of German verb prefixes*. Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.49

Fagard, B., Zlatev, J., Kopecka, A., Cerruti, M., & Blomberg, J. 2013. The expression of motion events: A quantitative study of six typologically varied languages. *Proceedings of the 39th Annual Meeting of the Berkeley Linguistics Society*, 364–379. https://doi.org/10.3765/bls.v39i1.3893

Fagard, B., Stosic, D. & Cerruti, M. 2017. Within-type variation in Satellite-framed languages: The case of Serbian. *Language Typology and Universals*, 70, 637–660.

Filipović, L. 2007. *Talking about motion: A crosslinguistic investigation of lexicalization patterns*. Amsterdam: John Benjamins. https://doi.org/10.1075/slcs.91

Filipović, L. 2010. The importance of being a prefix. In V. Hasko & R. Perelmutter (Eds.), *New approaches to Slavic verbs of motion*, 247–266. Amsterdam: John Benjamins. https://doi.org/10.1075/slcs.115.15fil

Fortis, J.-M. & Vittrant, A. 2016. Path-expressing constructions: Toward a typology. *Language Typology and Universals*, 69, 341–74. https://doi.org/10.1515/stuf-2016-0015

Goschler, J., & Stefanowitsch, A. 2013. *Variation and change in the encoding of motion events*. Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41

Gruber, J. S. 1967. *Look* and *see*. *Language*, 43(4), 937–947. https://doi.org/10.2307/411974

Hickmann, M., & Hendriks, H. 2006. Static and dynamic location in French and English. *First Language*, 26, 103–135. https://doi.org/10.1177/0142723706060743

Hijazo-Gascón, A., & Ibarretxe-Antuñano, I. 2013. Same family, different path: Intratypological differences in three Romance languages. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the encoding of motion events* (39–54). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.02hij

Ibarretxe-Antuñano, I. 2004. Language typologies in our language use: The case of Basque motion events in adult oral narratives. *Cognitive Linguistics*, 15(3), 317–349. https://doi.org/10.1515/cogl.2004.012

Ibarretxe-Antuñano, I. 2006. *Sound symbolism and motion in Basque*. München: LINCOM Europa.

Ibarretxe-Antuñano, I. 2009. Path salience in motion events. In J. Guo, E. Lieven, N. Budwig, S. Ervin-Tripp, K. Nakamura, & Ş. Özçalışkan (Eds.), *Crosslinguistic approaches to the psychology of language: Research in the tradition of Dan Isaac Slobin* (403–414). New York: Psychology Press.

Ibarretxe-Antuñano, I. (Ed.). 2017. *Motion and space across languages: Theory and applications*. Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59

Ibarretxe-Antuñano, I., & Hijazo-Gascón, A. (Eds.). 2015. *New horizons in the study of motion: Bringing together applied and theoretical perspectives*. Newcastle upon Tyne: Cambridge Scholars Publishing.

Im, S.-C. 2001. Typological patterns of motion verbs in Korean. Ph.D. dissertation, University at Buffalo, State University of New York.

Imbert, C. 2012. Path: Ways typology has walked through it. *Language and Linguistics Compass*, 6(4), 236–258. https://doi.org/10.1002/lnc3.329

Jackendoff, R. 1983. *Semantics and cognition*. Cambridge, MA: MIT Press.

Kageyama, T. 1997. Tango o koeta gokeisei [Word formation beyond words]. In T. Kageyama & Y. Yumoto, *Gokeisei to gainenkoozoo* [Word formation and conceptual structure] (128–197). Tokyo: Kenkyusha.

Kawachi, K. 2014. Patterns of expressing motion events in Kupsapiny. In O. Hieda (Ed.), *Recent advances in Nilotic linguistics* (103–136). Tokyo: Research Institute for Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.

Kawachi, K. 2016. Introduction: An overview of event integration patterns in African languages. *Asian and African languages and linguistics*, 10, 1–36. [Permanent URL: http://hdl.handle.net/10108/85062]

Kemmer, Suzanne. 2014. Fictive motion in the domain of light. *International Journal of Cognitive Linguistics* 5: 79–118.

Koga, H. 2017. Niti-ei-doku-ro-go no ziritu-idoo-hyoogen: Taiyaku-koopasu o motiita hikaku-kenkyuu [Self-motion expressions in Japanese, English, German, and Russian: A comparative study using translation corpora]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (303–336). Tokyo: Kurosio.

Kopecka, A. 2004. Étude typologique de l'expression de l'espace : Localisation et déplacement en français et en polonais. Ph.D. dissertation, Université Lumière Lyon 2.

Kopecka, A., & Narasimhan, B. (Eds.). 2012. *Events of putting and taking: A crosslinguistic perspective*. Amsterdam: John Benjamins. https://doi.org/10.1075/tsl.100

Lamarre, C. 2008. The linguistic categorization of deictic direction in Chinese: With reference to Japanese. In D. Xu (Ed.), *Space in languages of China: Cross-linguistic, synchronic and diachronic perspectives* (69–97). Berlin: Springer Science+Business Media. https://doi.org/10.1007/978-1-4020-8321-1_4

Lamarre, C. 2017. Chuugokugo no idoo-hyoogen. In Y. Matsumoto (Ed.), *Idoo-hyoogen no Ruikeiron* [Typology of Motion Expressions]. Tokyo: Kurosio.

Levin, B., & Rappaport Hovav, M. 2013. Lexicalized meaning and manner/result complementarity. In B. Arsenijević, B. Gehrke, & M. Rafael (Eds.), *Studies in the composition and decomposition of event predicates* (49–70). Dordrecht: Springer. https://doi.org/10.1007/978-94-007-5983-1_3

Ma, S. 2016. Fictive motion in Mandarin Chinese: A corpus-based study of coextension paths. Ph.D. thesis, University of Auckland.

Malt, B. C., Ameel, E., Imai, M., Gennari, S. P., Saji, N., & Majid, A. 2014. Human locomotion in languages: Constraints on moving and meaning. *Journal of Memory and Language*, 74, 107–123. https://doi.org/10.1016/j.jml.2013.08.003

Matlock, T., & Bergmann, T. 2014. Fictive motion. In E. Dąbrowska & D. Divjak (Eds.) *Handbook of Cognitive Linguistics* (771–790). Berlin: De Gruyter Mouton.

Matsumoto, Y. 1997. Kuukan-idoo no gengo-hyoogen to sono kakutyoo [Linguistic expressions of motion in space and their extensions]. In S. Tanaka & Y. Matsumoto, *Kuukan to idoo no hyoogen* [Expressions of space and motion] (125–230). Tokyo: Kenkyusha.

Matsumoto, Y. 2001. *Lexicalization patterns and caused and fictive motion: The case of typological split*. Handout for a lecture at SUNY Buffalo, NY.

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In S. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A festschrift for Masaru Kajita* (403–417). Tokyo: Kaitakusha. [Republished in A. Goldberg (Ed.), 2011. *Cognitive linguistics, Vol III* [Critical Concepts in Linguistics]. London: Routledge.]

Matsumoto, Y. 2004. *Nihongo no shikaku-hyoogen ni okeru kyokoo idoo* [Fictive motion in Japanese expressions of vision]. *Nihongo Bunpo*, 4, 111–128.

Matsumoto, Y. 2013. Determinants of Manner, Path, and Deixis saliency across languages. Paper presented at International Workshop SYLEX III: Space and Motion across Languages and Applications. University of Zaragoza, Zaragoza, Spain, 21 November 2013.

Matsumoto, Y. 2017a. Idoo-hyoogen no ruikei ni kansuru kadai [Issues concerning the typology of motion event descriptions]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (1–24). Tokyo: Kurosio.

Matsumoto, Y. 2017b. Nihongo ni okeru idoo-zisyoo-hyoogen no taipu to keiro no hyoogen. [Types of motion-event expressions and expressions of Path in Japanese]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (247–273). Tokyo: Kurosio.

Matsumoto, Y. 2017c. Eigo ni okeru idoo-zisyoo-hyoogen no taipu to keiro-hyoogen. [Types of motion-event expressions and expressions of Path in English]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (25–38). Tokyo: Kurosio.

Matsumoto, Y. 2017d. Idoo-hyoogen no seishitu to sono ruikeisei [Nature of motion expressions and their typological status]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (337–353). Tokyo: Kurosio.

Matsumoto, Y. 2018. Motion event descriptions in Japanese: Typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics*. Berlin: Mouton. https://doi.org/10.1515/9781614514077-010

Matsumoto, Y., Akita, K., & Takahashi, K. 2017. The functional nature of deictic verbs and the coding patterns of Deixis: An experimental study in English, Japanese, and Thai. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages and applications* (95–122). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.05mat

Matsumoto, Y., Akita, K., Andreani, F., Eguchi, K., Imazato, N., Kawachi, K., Matsuse, I., Nagaya, N., Morita, T., Takahashi, K., Takahashi, R. & Yoshinari, Y. 2013. Crosslinguistic tendencies in the intralinguistic variations of motion descriptions: An experimental study of manner, path, and deixis. Presented at the 12th International Cognitive Linguistics Conference, University of Alberta, Edmonton, Alberta, Canada, on June 23–28, 2013.

Meex, B. 2004. Motion, path and aspect: The case of the German path adpositions *über* and *durch*. In H. Cuyckens, T. Mortelmans, & W. De Mulder (Eds.), *Belgian Journal of Linguistics 18: Adpositions of Movement: Proceedings of the International Conference on Adpositions of Movement* (Leuven 2002), 299–322. Amsterdam & Philadelphia: Benjamins.

Morita, T. 2011. Intratypological variation in motion events in Japanese and French: Manner and deixis expressions as parameters for cross-linguistics comparison. *Cognitextes* 6 [https://cognitextes.revues.org/498]. https://doi.org/10.4000/cognitextes.498

Morita, T., & M. Ishihashi. 2017. Nihongo to furansugo no idoo-hyoogen: Hanashikotoba to kakikotoba no tekusuto kara no koosatsu. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (275–302). Tokyo: Kurosio.

Oh, K.-J. 2003. Language, cognition, and development: Motion events in English and Korean. Ph.D. dissertation, University of California, Berkeley.

Ohara, K. H. 2002. Linguistic encodings of motion events in Japanese and English: A preliminary look. *The Hiyoshi Review of English Studies* (Keio University), 41, 122–153.

Özçalışkan, Ş., & Slobin, D. I. 2003. Codability effects on the expression of manner of motion in English and Turkish. In A. S. Özsoy, D. Akar, M. Nakipoglu-Demiralp, E. E. Taylan, & A. Aksu-Koç (Eds.), *Studies in Turkish linguistics* (259–270). Istanbul: Bogaziçi University Press.

Schaefer, R. P. 1989. Typological mixture in the lexicalization of manner and cause in Emai. In P. Newman & R. D. Botne (Eds.), *Current Approaches to African Linguistics*, 5, 127–140. Dordrecht: Foris.

Sinha, C., & Kuteva, T. 1995. Distributed spatial semantics. *Nordic Journal of Linguistics*, 18, 167–199. https://doi.org/10.1017/S0332586500000159

Slobin, D. I. 1996. Two ways to travel: Verbs of motion in English and Spanish. In M. Shibatani & S. A. Thompson (Eds.), *Grammatical constructions: Their form and meaning* (195–219). Oxford: Clarendon Press.

Slobin, D. I. 1997. Mind, code, and text. In J. Bybee, J. Haiman, & S. A. Thompson (Eds.), *Essays on language function and language type: Dedicated to T. Givón* (437–467). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/z.82.24slo

Slobin, D. I. 2000. Verbalized events: A dynamic approach to linguistic relativity and determinism. In S. Niemeier & R. Dirven (Eds.), *Evidence for linguistic relativity* (107–138). Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.198.10slo

Slobin, D. I. 2004. The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Mahwah, NJ: Lawrence Erlbaum Associates.

Slobin, D. I. 2006. What makes manner of motion salient?: Explorations in linguistic typology, discourse, and cognition. In M. Hickmann & S. Robert (Eds.), *Space in languages: Linguistic systems and cognitive categories* (59–81). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/tsl.66.05slo

Slobin, D. I. 2009. Relations between Paths of motion and Paths of vision: A crosslinguistic and developmental exploration. In V. C. M. Gathercole (Ed.), *Routes to language: Studies in honor of Melissa Bowerman* (197–222). New York & London: Psychology Press.

Slobin, D. I. 2017. Typologies and language use. In I. Ibarretxe-Antuñano (Ed.) *Motion and space across languages and applications* (419–446). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.17slo

Slobin, D. I., & Hoiting, N. 1994. Reference to movement in spoken and signed languages: Typological considerations. *BLS* 20, 487–505. https://doi.org/10.3765/bls.v20i1.1466

Slobin, D. I., Ibarretxe-Antuñano, I., Kopecka, A., & Majid, A. 2014. Manners of human gait: A crosslinguistic event-naming study. *Cognitive Linguistics*, 25(4), 701–741. https://doi.org/10.1515/cog-2014-0061

Sugiyama, Y. 2005. Not all verb-framed languages are created equal: The case of Japanese. *Proceedings of the Thirty-First Annual Meeting of the Berkeley Linguistics Society*, 299–310.

Takahashi, K. 2000. Expressions of emanation fictive motion events in Thai. Ph.D. dissertation, Chulalongkorn University.

Takahashi, K. 2017. Tai-go no idoo-hyoogen [Motion expressions in Thai]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and lexical descriptions: Vol. 3. Grammatical categories and the lexicon* (36–149). Cambridge: Cambridge University Press.

Talmy, L. 1991. Path to realization: A typology of event conflation. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society*, 17, 480–519. https://doi.org/10.3765/bls.v17i0.1620

Talmy, L. 1996. Fictive motion in language and 'ception'. In P. Bloom, M. A. Peterson, L. Nadel, & M. F. Garrett (Eds.), *Language and space* (211–276). Cambridge, MA: MIT Press.

Talmy, L. 2000. *Toward a cognitive semantics, Vol. II: Typology and process in concept structuring*. Cambridge, MA: MIT Press.

Talmy, L. 2009. Main verb properties and equipollent framing. In J. Guo, E. Lieven, N. Budwig, S. Ervin-Tripp, K. Nakamura, & S. Özçalışkan (Eds.), *Crosslinguistic approaches to the psychology of language: Research in the tradition of Dan Isaac Slobin* (389–402). New York: Psychology Press.

Talmy, L. 2012. Main verb properties. *International Journal of Cognitive Linguistics*, 3, 1–24.

Talmy, L. 2016. Properties of main verbs. *Cognitive Semantics*, 2, 133–163. https://doi.org/10.1163/23526416-00202001

Thepkanjana, Kinkarn. 1986. Serial verb construction in Thai. Doctoral disseration, University of Michigan.

Toratani, K. 2012. The role of sound-symbolic forms in Motion event descriptions: The case of Japanese. *Review of Cognitive Linguistics*, 10(1), 90–132. https://doi.org/10.1075/rcl.10.1.03tor

Verkerk, A. 2013. *Scramble, scurry* and *dash*: The correlation between motion event encoding and manner verb lexicon size in Indo-European. *Language Dynamics and Change*, 3(2), 169–217. https://doi.org/10.1163/22105832-13030202

Verkerk, A. 2014. The correlation between motion event encoding and path verb lexicon size in the Indo-European language family. *Folia Linguistica Historica*, 35, 307–358. https://doi.org/10.1515/flih.2014.009

Wälchli, B. 2001. A typology of displacement (with special reference to Latvian). *Sprachtypologie & Universalienforschung*, 54, 298–323.

Wälchli, B., & Sölling, A. 2013. The encoding of motion events: Building typology bottom-up from text data in many languages. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the encoding of motion events* (77–113). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.04w228l

Wienold, G. 1995. Lexical and conceptual structures in expressions for movement and space: with reference to Japanese, Korean, Thai, and Indonesian as compared to English and German. In U. Egli, P. Pause, C. Schwarze, A. von Stechow, & G. Wienold (Eds.), *Lexical knowledge in the organization of language* (301–340). Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.114.14wie

Wienold, G., & Schwarze, C. 2002. The lexicalization of movement concepts in French, Italian, Japanese and Korean: Towards a realistic typology. *Arbeitspapier* (Fachbereich Sprachwissenschaft der Universität Konstanz), 112, 1–32.

Zlatev, J. 2007. Spatial semantics. In H. Cuyckens & D. Geeraerts (Eds.), *The Oxford handbook of cognitive linguistics* (318–50). Oxford: Oxford University Press.

Zlatev, J., & Yangklang, P. 2004. A third way to travel: The place of Thai and serial verb languages in motion event typology. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (159–190). Mahwah, NJ: Lawrence Erlbaum Associate.

Zubizarreta, M., & Oh, E. 2007. *On the syntactic composition of manner and motion.* Cambridge, MA: MIT Press. https://doi.org/10.7551/mitpress/5132.001.0001

PART I

Path and Deixis in individual languages

Distinct coding of Deixis and Path in Kathmandu Newar

Ikuko Matsuse

Center for Newar Studies

Focusing on the Kathmandu Newar language, which is spoken in the metropolitan area of Nepal (Kathmandu valley), this chapter discusses the coding patterns of Deixis, which have been relatively understudied. The chapter has two principal aims. The first is to describe how Deixis and Path are expressed in self-motion and various subtypes of caused motion events in Kathmandu Newar. The second is to discuss the implications of this analysis for the typology of motion expressions. I argue that the pervasiveness of Deixis and its distinct coding pattern in Kathmandu Newar permits us to distinguish between Deixis and Path.

Keywords: caused motion, deixis, path, self-motion, typology

1. Introduction

Ever since DeLancey (1980) showed that many Tibeto-Burman languages have a system to mark deictic orientation with 'coming' and 'going' verbs or directives, much attention has been paid to the behavior of deictic verbs in those languages. Studies such as DeLancey (1985) and Honda (2004) have demonstrated the development of deictic motion verbs into grammaticalized forms. Although many researchers have noted the importance of deictic verbs in Tibeto-Burman languages, details about the deictic verbs in Newar have until now gone unmentioned, with the exception of a simple listing of them in DeLancey's (1980: 264) Appendix. The purposes of this chapter are to illuminate the behavior of deictic verbs in Kathmandu Newar in self-motion and caused motion, to account for the connection of adverbial forms with Deixis in Kathmandu Newar, and to show how the classification of motion expressions proposed by Matsumoto (2017, 2018) enables us to properly capture these behaviors.

Before entering into a discussion of motion expressions in Kathmandu Newar, this section presents some background knowledge about the language, which will be useful for readers (see Malla 1985; Kölver and Shresthacarya 1994; Kansakar

et al. 2002; Hargreaves 2003; Hale and Shrestha 2006 for details). Newar is an indigenous language spoken mainly in the Kathmandu valley of Nepal. As a member of the Tibeto-Burman branch of the Sino-Tibetan family, the language is officially called *Nepāl Bhāsā*, the language of Nepal. The Newar language has a longer history in the Kathmandu valley than Nepali, the lingua franca of Nepal, which belongs to the Indo-Aryan branch of the Indo-European family. From a dialectological perspective, Newar can be divided into six major varieties, with Kathmandu Newar comprising the majority of Newar speakers at about 847,000, according to the National Census conducted in 2011.[1] Many Nepali words have entered the Newar vocabulary, and many Newar people use Nepali in their social life.

Newar is an agglutinating language following SOV word order, and its nominals require case-marking suffixes and/or postpositions. It has an ergative alignment system. Thus, transitive subjects bear ergative case marking, the form of which is the same as for the ablative and instrumental cases. The absolutive case is unmarked. In verb conjugations, verb phrases in Kathmandu Newar can be characterized by the presence of the opposition between Conjunct and Disjunct forms.[2]

The organization of this chapter is as follows. Section 2 briefly sketches the history of typological approaches to motion expressions and highlights their main issues. Section 3 examines how Deixis and Path are expressed in Kathmandu Newar. Section 4 discusses the implications for the classification of motion expressions, focusing on the different coding patterns of Deixis and Path, and variation in the use of deictic verbs in caused motion. Section 5 summarizes the main points of the chapter.

2.   Deixis and Path in previous literature

In this section, I give a brief history of the typological analyses of motion event expressions, especially as they relate to the issue of Deixis.

---

1.   According to Shakya (1992), the six dialects of the Newar language are Kathmandu/Patan, Pyangāo, Bhaktapur, Badipur, Dolakha, and Badhikel (Pahari). Of these, Kathmandu/Patan Newar has the greatest number of speakers, followed by Bhaktapur Newar, which is spoken in the area 12 kilometers east of Kathmandu.

2.   The Conjunct/Disjunct opposition is governed by intentionality/evidentiality. Conjunct suffixes occur whenever an action is construed as intentional, and the actor/agent is also the evidential source reporting the action. On the other hand, Disjunct suffixes occur in all other situations (Hargreaves 2003: 376). Intentionality and evidentiality are separate and necessary parameters to explain the nature of the opposition. In Hargreaves (2017) he replaces evidentiality with egophoricity, and presents an intentionality/egophoricity pair.

Talmy (1985a) was the first to attempt to divide up the world's languages typologically, based on the semantic conflation found in the main verbs and "satellite" elements in their motion expressions. He contrasted English, which uses satellite elements to express Path, with Spanish, which expresses Path by means of its main verbs. Important subsequent work in this area (e.g. Talmy 1991, 2000) then posited a binary distinction between verb-framed and satellite-framed languages, depending on where the Path notion is encoded in the surface structure.[3]

Arguing for the superiority of a constructional perspective in place of Talmy's framework, Croft et al. (2010) proposed an analysis in terms of different construction types in order to examine motion event descriptions. Although they proposed deictic orientation as a third semantic component of motion descriptions after Manner and Path (Croft et al. 2010: 207), they neglected to elaborate on this idea, leaving the role of Deixis in motion expressions unclear.

Attention to Deixis in motion expressions actually originated with an important work on English in the 1970s by Charles Fillmore, who distinguished deictic motion verbs from other motion verbs (see Fillmore 1997). Before it reached full development, however, the special status of Deixis was lost sight of in the tide of typological approaches that arrived in the 1980s.

Talmy (2000), the most refined of the typological approaches to motion expressions, treats Deixis, together with Vector (e.g. TO, FROM) and Conformation (e.g. IN, OUT), as a component of Path.[4] However, he barely touches on the peculiar relationship between the Deictic component and the Vector and Conformation components, and his discussion of Deixis as it applies to various languages is very limited (Talmy 2000: 57). One exception is Korean, which uses deictic verbs as main verbs, and which Talmy treats as a verb-framed language:

> But unlike Spanish, Korean can present both Path components [= Deixis and Conformation] concurrently in nonagentive [= self-motion] sentences (Choi and Bowerman 1991). In this case, the Deictic verb is the main verb, the Conformation verb [i.e., 'enter'] appears in a gerundive constituent, and a Manner verb can still appear in a further gerundive constituent. Thus, Korean is a characteristically Path verb type of language, but it structurally distinguishes the Deictic component from the Conformation component of Path and accords in higher priority when both components are present.   (Talmy 2000: 57)

---

3.   Slobin (2004) adds a third type, "equipollently-framed" languages, to Talmy's framework, because there are languages with bipartite verbs, in which the verb consists of two morphemes of equal status expressing Manner and Path, respectively.

4.   The capitalized form "Path" refers to a general category. In contrast, the non-capitalized form "path(s)" refers to particular paths described in motion event descriptions.

Recently, Matsumoto (2017, 2018) has attempted to refine the classification of motion expressions (see also the Introduction), and has argued that Deixis can be coded differently from Talmy's other Path components. The three main ideas of his proposal can be summarized as follows:

1. Coding positions of Path can be either of the following two positions (in a language which has a single head in a clause):
   a. head or the main verb root
   b. head-externals or any elements outside the main verb root (e.g. verb affixes, adpositions, case markers)
2. The coding position of Path depends on the nature of the motion, which can be categorized as:
   a. Self-motion
   b. Caused motion
      i.   co-motional type
      ii. ballistic type
      iii. controlled type
   c. Fictive motion along emanation path[5]
3. Deixis can behave differently from Talmy's other Path components.

In conceptualizing Path marking as either head coding or head-external coding, Matsumoto avoids reliance on the notion of satellites, which only include constituents in a sister relation to the main verb root (Talmy 2000: 102). In addition to categorizing motion events into three main types (i.e. self-motion, caused motion and abstract or emanation motion), Matsumoto further subdivides caused motion into three subtypes (i.e. co-motional, ballistic, and controlled), which differ according to the causer's involvement in the caused event. One distinction is whether the agent moves or not. When the agent moves concurrently along with the Figure (moved object) to a place (goal), it is an example of co-motional causative. In contrast, when

---

5.   There are other types of 'fictive motion' expressions. However, Matsumoto (2017, 2018) picks this one since it provides a construction pattern different from Self- and Caused motion (See the Introduction and Chapter 9 this volume). He states his position on emanation in Chapter 9 in this volume, as follows.

> In emanation… the Figure is not expressed in any argument of the verb. This constructional type is typically used to depict the fictive motion of vision, speech, and other entities… This representation type is not as common as the other two, and is only one subtype of fictive or nonactual motion expressions (Talmy 1996; Blomberg 2014), but it does represent a clearly different representation type in terms of how a Figure is expressed.

Matsumoto focuses on 'emanation' as it shows a representation type that is clearly different from Self- and Caused motion types. See also Blomberg (2014) for the motivations and subcategorization of nonactual motion.

the agent himself/herself does not move but gives the Figure the impetus to move, it is an example of ballistic causative. When the agent does not move but uses a part of his or her body to manipulate the Figure to a place within physical reach, it is an example of controlled caused motion. Finally, Matsumoto argues that Deixis can be coded in a way different from Talmy's other Path notions. To him, Deixis is a combination of a Vector plus a very special Ground: the speaker (see Section 2.1 of Introduction). This special combination of Path and Ground makes it different from Talmy's other Path notions. I will use the term Path to refer to such notions as Vector (e.g., TO), Vector plus Conformation (e.g., INTO), and Direction (e.g., UP) and do not include Deixis in it.

Kathmandu Newar presents clear phenomena that require a distinction to be drawn between Deixis (e.g. HITHER) and Path (e.g. UP, INTO) in the typology of motion event descriptions. In Kathmandu Newar, the coding positions of Deixis and Path are drastically different: Path is generally expressed by elements other than the main verb (i.e. case markers, postpositions, prefixes, and directional adverbs), but Deixis is expressed in the main verb. The data also reveal the need for subdividing caused motion. Consequently, I will revisit Matsumoto's proposal in Section 4 as part of my discussion of Deixis and Path.

3. Motion expressions in Kathmandu Newar

This section gives a detailed account of motion expressions in Kathmandu Newar, with special attention to the coding of Deixis and Path in self-motion and caused motion expressions.[6]

3.1 Deixis and Path markers

Kathmandu Newar has various forms for expressing Deixis and Path. In indicating Path, it mostly uses (i) the Locative (-*e*, or its allomorphs -*ne* or -*i*) and Ablative (realized as nasality of the final vowel of a nominal) case markers to mark Goal and Source (Vectors), (ii) postpositions to mark Source, Directionality (e.g. 'toward'), and other notions, (iii) adverbs to mark Directions (e.g. 'up') and complex path notions such as 'into', and (iv) prefixes attached to certain verb root forms to mark Directions.[7] The Locative (-*e*) functions as an indicator of a goal when it occurs with a deictic motion verb as in (1).

---

6. For basic properties of motion event descriptions in Newar, see Matsuse (2017). The present study is focused on the distinct patterns of Deixis and Path.

7. Prefixes attached to verb root forms are the same in form as the six bound morphemes that are described below (1).

(1) *rāma isku:l-e   wa-la.*
     Ram   school-LOC come-PD
     'Ram came to school.'

Kathmandu Newar has three kinds of adverbs that are different in the verbs they occur with (Hargreaves 2004). They have the following endings: (i) locative *-ne* (general type), (ii) *-hã:* (ad-deixis type), and (iii) *-ta* (ad-causative type). These endings are attached to one of six bound morphemes (*du-* 'in', *pi-* 'out', *tha-* 'up', *kwa-* 'down', *nhya-* 'front', or *li-* 'back') to create directional adverbs. Some of these bound morphemes may be nominal in nature. Table 1 shows the possible combinations of these morphemes and adverbial endings.[8]

Table 1. Combinations of bound directional morphemes and adverbial endings

Bound morphemes	Adverbial ending forms		
	General type	**Ad-deixis type**	**Ad-causative type**
du- 'in'	*du-ne*	*du-hã:*	*du-ta*
pi- 'out'	*pi-ne*	*pi-hã:*	*pi-ta*
tha- (cwa-) 'up'	*cwa-e*	*tha-hã:*	*tha-ta*
kwa- 'down'	*kwa-e, ku-ne*	*kwa-hã:*	*kwa-ta*
nhya- 'front'	*nhya-ne*	*nhya-hã:*	*nhya-ta*
li- 'back'	*liu-ne*	*li-hã:*	*li-ta*

As for their combinatorial possibilities with verbs, the general type, ending in *-ne*, is used with any type of motion verb. The ad-deixis type, ending in *-hã:*, is used only with deictic verbs (for self-motion), and the ad-causative type, ending in *-ta*, occurs only with causative motion verbs. These will be exemplified later (Sections 3.2, 3.3, 3.4).

Kathmandu Newar has a limited set of path verbs. For example, it has *pule* 'pass' and *chiye* 'cross (the river)', but no verb to express 'enter' or 'exit'. However, it does use verbs to indicate Deixis. In addition to the deictic motion verbs *wane* 'go' and *waye* 'come', Kathmandu Newar has three causative deictic verbs: *chwaye* 'make someone/something go to where the speaker is not located', *haye* 'bring something to the speaker's position', and *yē:ke* 'accompany someone/something to where the speaker is not located'.

---

8.   It may be said that the bound morphemes in Table 1 encode Conformation in Talmy's (2000) terms and that Vector TO is encoded by the adverbial ending.

3.2   Self-motion

Example (2) shows how Deixis and Path are described in Kathmandu Newar.

(2) *syām rām-yā-gu   kwathā-e du-hā̃: wan-a.*
Syam Ram-GEN-ADN room-LOC in-ADD go-PD
'Syam went into Ram's room.'

In (2), the deictic verb, *wane* 'go', appears in the main verb, or head position. Path notions are described by case markers on nominals (*-e* of *kwathā-e* in (2)), along with a path adverb (*du-hā̃:* in (2)). Unlike many other languages, Kathmandu Newar does not have a verb denoting 'enter'. Thus, it uses a combination of a deictic verb with an adverb (ad-deixis type) rather than a path verb to express this path. The combination of a deictic verb and an appropriate adverbial is also used for 'descend', and 'exit', as in (3).

(3) a. *rāma pa:khā:l-ā kwa-hā̃: wa-la.*
Ram wall-ABL down-ADD come-PD
'Ram got down from the wall.'
  b. *ji rāma-yā-gu   kwathā̃: pi-hā̃: wa-yā.*
1SG Ram-GEN-ADN room.ABL out-ADD come-PC
'I came out of Ram's room.'

While Kathmandu Newar does have some path verbs, such as *pule* 'pass', *chiye* 'cross (the river)', and *gaye* 'climb', these verbs have to be used in a concatenative (con-verbal) form in combination with the deictic motion verbs, *wane* 'go' and *waye* 'come', which occupy the head position. This is illustrated in (4).[9]

(4) a. *ji mhiga: thwa tā: pulā   wa-yā.*
1SG yesterday this   bridge pass.over.CM come-PC
'Yesterday I crossed this bridge.'
  b. *ji-mha   pāsā bwā̃e-bwā̃e   swāni-i gayā   wan-a.*
1SG-ADN friend run.NLZ-run.NLZ stair-LOC climb.CM go-PD
'My friend ran up the stairs.'

In (4a), where a con-verb consecutive construction is used with a path verb and a deictic verb, the deictic verb occupies the head position.

---

9. Kathmandu Newar does have the verb *gaye* 'climb' to refer to upward movement, but it is used in a limited range of situations, such as *simā-e gaye* (climb a tree) or *pahadā-e gaye* 'climb a mountain'. In the case of walking upstairs, Kathmandu Newar prefers the combination of a path adverb and a deictic verb to the verb *gaye*. Even when *gaye* appears in a clause, it is used in combination of a deictic verb, as in (4b), and the deictic verb occupies the head position.

Manner also has to be expressed with Deixis in the main verb, as in (4b) and (5) below, which show typical expressions used in Kathmandu Newar for walking and running. (4b) has a verb-based, reduplicated adverb appearing in a clause, with a deictic verb functioning as the head of the motion expressions.[10] In (5), walking is expressed as the first element of a compound verb, with a deictic verb appearing as the head of the compound.[11]

(5) *rām iskl-ā: nyāsi   wa-la.*
     Ram school-ABL walking come-PD
     'Ram walked from school.'

3.3   Caused motion

Kathmandu Newar is presumably a rare language in that Deixis is encoded in the head position even in many cases of caused motion. There are many languages in which deictic verbs occur in the main verb position in self-motion expressions. However, those languages typically do not show the same pattern for caused motion. In Korean, for example, Deixis heads self-motion sentences but not caused motion sentences (Choi and Bowerman 1991), except for the co-motional subtype (Im 2001). A similar pattern is found in Japanese (Matsumoto 2003) and Marathi (Prashant Pardeshi, personal communication). In contrast, Kathmandu Newar has three causative deictic verbs (see Section 3.1), all of which can be used in the head position of caused motion expressions except for a certain subtype of caused motion.

It is instructive to examine the specific details of these three causative deictic verbs because their behavior is more complicated than that of the deictic motion verbs for self-motion and it requires a particular subdivision of caused motion.

There are different ways of classifying caused motion. Talmy (1976, 1985b) distinguishes "onset" causation from "extended" causation. Onset causation occurs only at the beginning of a caused process, whereas extended causation takes place throughout the caused process. However, a mere division into onset causation and extended causation is insufficient in accounting for the situation in Kathmandu Newar, as (6) through (8) will illustrate.

---

10. (4b) has Manner and Path, both of which need deictic verbs in the head position. When Manner and Path appear in a sentence, Manner comes first, followed by Path, and the deictic verb occupies the head position in the motion expressions in Kathmandu Newar. In this example, the reduplicated *bwãe-bwãe*, the nasalized form indicating the manner of running, is separated from the deictic verb and functions like a manner adverb, implying a continuous running.

11. *Nyāsi* in (5) is a noun-like part of the compound word, *nyāsi wane/waye* 'walk'. *Nyāsi* is not used by itself. It is always followed by a deictic verb, *wane* 'go' or *waye* 'come', when the walking event is described.

(6) *jī: gitā-yāta rām-yā-gu   chē-e   chwa-yā.*
     1SG.ERG Gita-DAT Ram-GEN-ADN house-LOC go.CAUS-PC
     'I sent Gita to Ram's house.'

(7) a. *jī: macā-yāta park-e   yē:k-ā.*
         1SG. ERG child-DAT park-LOC go.CAUS.(accm.)-PC
         'I took the child to the park.'
     b. *rām-ā: dugu-cā lu-yā   ha-la.*
         Ram-ERG goat-DIM drag-CM come.CAUS-PD
         'Ram dragged the goat here.'

(8) a. *wā: cyā-e   cini   ta-la.*
         3SG.ERG tea-LOC sugar put-PD
         'S/he put sugar in his/her tea.'
     b. *ā:gal-e   tik-ā   ta:-gu   postar pwal-ā ka-yā.*
         wall-LOC attach-CM put.ST-ADN poster tear-CM take-PC
         'I tore away the poster from the wall.'

In (6), expressing a situation in which the speaker orders Gita to go to Ram's house, the causative deictic verb *chwaye* is used. The causative deictic verb *yē:ke* is similarly used in (7a), in which the speaker describes accompanying his/her child to the park. In (7b), where Ram drags a goat to the location of the speaker, Kathmandu Newar also employs the causative deictic verb *haye* in the head position. In this case, the combination of the means-of-causation verb *luye* 'drag' and the causative deictic verb *haye* is employed in a con-verb construction. In short, *chwaye* is used for onset causation in (6), while *yē:ke* and *haye* are used for extended causation in (7).

    The situation of manually moving something somewhere is expressed differently. For example, (8a) expresses a situation where someone puts sugar in tea, and (8b) describes one where the speaker tears a poster off a wall. In these situations, the causative agent is controlling the movement of an object within his/her physical reach without changing his/her own location. In Kathmandu Newar, the events in (8a, b) are encoded differently from those in (6)–(7). Instead of a causative deictic verb, *taye* 'put' and *kāye* 'take' occupy the head position, respectively. (7) and (8) are both cases of extended causation in Talmy's classification. The distinction between onset and extended causation alone cannot capture the difference between (7) and (8).

    However, by employing a tripartite subcategorization of "ballistic", "co-motional", and "controlled", borrowed directly from Matsumoto (2017, 2018), we can account for the examples in (6), (7), and (8) as follows. Ballistic causation is expressed with the causative deictic verb *chwaye* as in (6).[12] Likewise, co-motional

---

12. Means-of-causation verbs such as *thwāye* 'kick' or *ghwāye* 'push (away)' are accompanied by a causative deictic verb in the head position when "ballistic" causation is depicted.

causation is expressed with the causative deictic verbs *yē:ke* and *haye*, as in (7a) and (7b), respectively. However, when an agent causes the movement of an object by hand (i.e. exhibits controlled causation), other verbs, *taye* 'put' and *kāye* 'take', are used, as in (8).

Path notions, in contrast, are expressed in head-external positions, as with self-motion. In (9a), a *-ne* adverb occurs in combination with a means-of-causation verb to denote the goal of caused motion. In (9b), a *-ne* adverb is used with the putting verb, which also encodes a very general information about Path.

(9) a. *rām-ā: tepa baigal-e   du-ne ghwā-nā ta-la.*
         Ram-ERG keg kitchen-LOC in-LOC push-CM put-PD
         'Ram pushed the keg into the kitchen.'
     b. *wā: sāmān lukhā-yā nhya-ne   ta-la.*
         3SG.ERG luggage door-GEN front-LOC put-PD
         'He put the luggage in front of the door.'

In summary, the encoding of Deixis and Path in caused motion in Kathmandu Newar is shown in Table 2. Deictic verbs occupy the head position of self-motion expressions and two sub-types of caused motion expressions. In contrast, Path notions are expressed in head-external elements.

Table 2. Encoding of Deixis and Path in Kathmandu Newar

Types of motion event		Notions	
		Deixis	**Path**
Self-motion		head	head-external
Caused motion	co-motional	head	head-external
	ballistic	head	head-external
	controlled	–	head-external

3.4   More on path adverbs

Adverbial forms exhibit an interesting phenomenon in that there are three distinct forms that indicate the same Path notions, each of which is subject to a certain occurrence constraint. As mentioned in Section 3.1, these adverbial forms are referred to as the general type, ad-deixis type, and ad-causative type and are marked with *-ne*, *-hẫ:*, and *-ta*, respectively.

The key conditions for the use of these forms are Deixis and causation. Adverbs ending in *-ne* function as the default form and can generally serve in any expression of motion, whether the verb in question expresses deictic or non-deictic notions.

The ad-deixis type *-hã:* co-occurs only with deictic verbs for self-motion, and deictic verbs of self-motion strongly tend to co-occur with adverbs ending in *-hã:*. All the examples in (10) have either *wane* or *waye* in the head position. As seen in (2)–(3) above, Newar does not have single verbs to denote 'exit', 'enter', 'ascend', or 'descend'. Thus, to express a situation in which a moving entity enters some enclosed place, the combination of the adverbial ending form *-hã:* and a deictic verb is generally used, as in (10a). Adverbial endings on bound directional morphemes are also used in combination with deictic verbs to express ascending and exiting, as in (10b, c).

(10) a. *gitā ji-gu   kwathā-e du-hã̃: wa-la.*
          Gita 1SG-GEN room-LOC in-ADD come-PD
          'Gita came into my room.'

      b. *ji pali-i   tha-hã̃:   wan-ā.*
          1SG roof-LOC up-ADD go-PC
          'I went up to the roof.'

      c. *ji rāma-yā-gu   kwathã̃: pi-hã̃:   wa-yā.*
          1SG Ram-GEN-ADN room.ABL out-ADD come-PC
          'I came out of Ram's room.'

The special attention to Deixis even in adverbial forms testifies to its importance in Kathmandu Newar.

The ad-causative type adverbials, ending in *-ta*, are used only with a causative motion verb that occupies the head position, including deictic verbs of caused motion. Example (11a) has *taye* 'put', (11b) has *yē:ke*, and (11c) has *haye* in their respective head positions.

(11) a. *jī: bwane-dhuna-gu   saphu: saphukuthi-i li-ta   ta-yā.*
          1SG. ERG read.INF-finish.PD-ADN book   library-LOC back-ADC put-PC
          'I returned the book I finished reading to the library.'

      b. *rām-ā: macā kwa-ta   yē:k-ala.*
          Ram-ERG child down-ADC go.CAUS-PD
          'Ram took his child downstairs.'

      c. *wā wa:-gulī:,   rām-ā   nibhāla-e pānā*
          rain come.ST-because Ram-ERG sun-LOC make.dry.CM
          ta:-gu   wasa du-ta ha-la.
          put.ST-ADN clothes in-ADC come.CAUS-PD
          'As it started raining, Ram brought in the clothes that had been drying in the sun inside.'

These three types of adverbials are shown in Table 3.

Table 3. Distribution of adverbials marking Path in self-motion
and caused motion events

	Deictic verbs	Non-deictic verbs
Self-motion	*-hǎ̃:*	
	-ne	*-ne*
Caused motion	*-ta*	*-ta* (putting/taking verbs)
	-ne	*-ne*

The existence of such varied adverbial forms is unexpected and interesting. Usually
in satellite-framed languages, the same elements are used to describe Paths in
self-motion and caused motion.

(12) a. *The bottle floated into the cave.*   (Talmy 2000: 49–51)
      b. *I rolled the keg into the storehouse.*

If we translate the examples of (12) into Kathmandu Newar, we obtain the following
pair (13a, b).

(13) a. *sisi   lakha-e   dya:-ne lehẽ:puyā: pākha-e <u>du-hǎ̃:</u> wan-a.*
          bottle water-LOC top-LOC float.NF   cave-LOC in-ADD go-PD
          'The bottle floated into the cave.'
      b. *jĩ: tepa gualatuikā: dukut-i   <u>du-ta</u>   ta-yā.*
          1SG.ERG keg roll.CAUS.NF storehouse-LOC in-ADC put-PC
          'I rolled the keg into the storehouse.'

As these two sentences illustrate, self-motion and caused motion Paths in Kath-
mandu Newar are marked by different adverbial forms, though the goal nominals
bear the same locative case.

4. Discussion

Two characteristics of motion expressions in Kathmandu Newar have been demon-
strated: (i) different coding patterns of Deixis and Path, and (ii) variation in the use
of deictic verbs in caused motion.

    Concerning (i), the contrast in the Deixis and Path coding positions is once
again illustrated in (14).

(14) a. *rāma isklā: bwẽe   <u>wa-la</u>.*
          Ram school.ABL run.NLZ come-PD
          'Ram ran from school.'

b. *jī: gitā-yāta masalā pasal-e   chwa-yā*.
   1sg.ERG Gita-DAT spice   shop-LOC go.CAUS-PC
   'I sent Gita to a spice shop.'

c. *rām-ā: ka:ni-bū: nisē: dugu-cā lu-yā   ha-la*.
   Ram-ERG corn-field from goat-DIM drag-CM come.CAUS-PD
   'Ram dragged the goat here from the corn field.'

The examples in (14) show that Kathmandu Newar is a head-external coding language as far as Path notions are concerned, but a verb-framed or head-coding language as far as deictic notions are concerned. In other words, this shows that Deixis behaves differently from Path. In fact, the head coding of Deixis is the most important characterization of Kathmandu Newar motion descriptions. As such, Deixis and Path must be treated separately in any comprehensive typology of motion event descriptions.

Setting the speaker's location as the reference point of the motion event using 'come' or 'go' is clearly different from setting a boundary using 'exit' or 'enter' or describing motion in a particular direction, and this difference can have major repercussions in the expression of such events. Motion event descriptions in Kathmandu Newar show that deictic perspective is set in the head position and Path coding is allocated to a head-external position.

Concerning (ii), the variation in the use of deictic verbs in caused motion, causative deictic verbs do not always occupy the head position in caused motion expressions. Kathmandu Newar has three causative deictic motion verbs *chwaye* 'send, cause to go', *yē:ke* 'accompany, cause to go', and *haye* 'bring', which behave as the head of the ballistic and co-motional causative types but do not function as the head of the controlled type. The bipartite distinction between onset and extended causation is not sufficient to capture the nature of caused motion. It is necessary to employ a tripartite subdivision in order to describe the entire range of deictic verbs that can occupy the head position.

The behavior of motion expressions in Kathmandu Newar eludes Talmy's framework, but fits nicely with Matsumoto's (2017, 2018), described in Section 2, which includes a clear distinction between Deixis and Path and a fine-grained subdivision of caused motion.

Matsumoto's terms, head and head-external coding, instead of verb-framed and satellite-framed, are also more appropriate for Kathmandu Newar data. Talmy's "satellite" is limited to a constituent in a sister relation to the main verb root (Talmy 2000: 102). Path constituents in Kathmandu Newar may also take the form of case markers, and the term "head-external" is more appropriate than "satellite" in describing the positions of Path constituents.

5. Concluding remarks

In this chapter I have shown that motion expressions in Kathmandu Newar exhibit two primary characteristics: (i) different coding positions for Deixis and Path, and (ii) the use of causative deictic verbs in a wide but circumscribed range of caused motion.

Proposals made by Matsumoto (2017, 2018) allow us to describe the full range of motion event expressions in Kathmandu Newar. The division into head and head-external positions captures the features of Path coding more adequately than other existing perspectives. The types of motion events and the subtypes of caused motion clarify the placement of Path components in a clause, and the clear separation of Deixis from Path is needed to account for the primary characteristics of motion expressions.

The head coding of Deixis is the most important characterization of Kathmandu Newar motion descriptions. The question remains as to why some languages like Newar prefer to describe motion events based on Deixis while others do not. However, a discussion of this issue is beyond the scope of the current chapter.

Acknowledgements

Abbreviations

ABL	ablative case	GEN	genitive case
ADC	ad-causative adverbial ending	LOC	locative case
ADD	ad-deixis adverbial ending	NF	non-finite form
ADN	adnominal	NLZ	nasalized form
CAUS	causative form	PC	perfective conjunct
CM	concatenation marker	PD	perfective disjunct
DAT	dative case	PREF	prefix
DIM	diminutive	SG	singular form
ERG	ergative case	ST	stative form

Funding information

References

Blomberg, J. 2014. The expression of non-actual motion in Swedish, French and Thai. *Cognitive Linguistics*, 26(4), 657–696.

Cappelle, B. This volume. Looking into visual motion expressions in Dutch, English, and French: How languages stick to well-trodden typological paths.

Choi, S., & Bowerman, M. 1991. Learning to express motion events in English and Korean: The influence of language-specific lexicalization patterns. *Cognition*, 41, 83–121. https://doi.org/10.1016/0010-0277(91)90033-Z

Croft, W., Barðdal, J., Hollmann, W., Sotirova, V., & Taoka, C. 2010. Revising Talmy's typological classification of complex event constructions. In H. Boas (Ed.), *Contrastive studies in construction grammar* (201–236). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cal.10.09cro

DeLancey, S. 1980. Deictic categories in the Tibeto-Burman verb. Unpublished Ph.D. dissertation. Indiana University.

DeLancey, S. 1985. The analysis-synthesis-lexis cycle in Tibeto-Burman: A case study in motivated change. In J. Haiman (Ed.), *Iconicity in syntax* (367–389). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/tsl.6.18del

Fillmore, C. J. 1997. *Lectures on deixis*. Stanford: CSLI Publications.

Hale, A., & Shrestha, K. P. 2006. *Newār (Nepāl Bhāsā)*. [Language of the World/Materials 256]. Munich: LINCOM GmbH.

Hargreaves, D. J. 2003. Kathmandu Newar (Nepāl Bhāsā). In G. Thurgood & R. LaPolla (Eds.), *Sino-Tibetan Languages* (371–384). London: Routledge.

Hargreaves, D. J. 2004. Directional prefixes in Kathmandu Newar. In A. Saxena (Ed.), *Himalayan languages: Past and present 2* [Trends in Linguistics Studies and Monographs 149] (273–284). Berlin & New York: Mouton de Gruyter. https://doi.org/10.1515/9783110898873.273

Hargreaves, D. J. 2017. Kathmandu Newar (Nepāl Bhāsā). In G. Thurgood & R. LaPolla (Eds.), *Sino-Tibetan Languages*, 2nd ed. (453–467). London: Routledge.

Honda, I. 2004. Grammaticalization of deictic motion verbs in Seke. In A. Saxena (Ed.), *Himalayan languages: Past and present* 2 [Trends in Linguistics Studies and Monographs 149] (285–310). Berlin & New York: Mouton de Gruyter. https://doi.org/10.1515/9783110898873.285

Im, S.-C. 2001. Typological patterns of motion verbs in Korean. Ph.D. dissertation, University at Buffalo, State University of New York.

Kansakar, T., Ishii, H., & Kiryu, K. 2002. *Conversation in Newar*. Institute for the Study of Languages and Cultures of Asia and African. Tokyo University of Foreign Studies.

Kawachi, K. This volume. Should Talmy's motion typology be expanded to visual motion? An investigation into expressions of motion, agentive motion, and visual motion in Sidaama (Sidamo).

Kölver, U., & Shresthacarya, I. 1994. *A dictionary of contemporary Newar*. Bonn: VGH Wissenschaftsverlag.

Malla, K. P. 1985. *The Newari language: A working outline* [Numenta Serindica 14]. Institute for the Study of Languages and Cultures of Asia and Africa. Tokyo University of Foreign Studies.

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In S. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A festschrift for Masaru Kajita* (403–418). Tokyo: Kaitakusha.

Matsumoto, Y. 2017. Idoo-hyoogen no ruikei ni kansuru kadai [Problems in the Typology of Motion Expressions]. In Y. Matsumoto (Ed.) *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (1–24). Tokyo: Kurosio Publishers.

Matsumoto, Y. 2018. Motion event descriptions in Japanese: Typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics* (273–289). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614514077-010

Matsumoto, Y., and Kawachi, K. This volume. Introduction: Motion event descriptions in broader perspective.

Matsumoto, Y. This volume. Neutral and specialized path coding: Toward a new typology of path-coding devices and languages.

Matsuse, I. 2017. Newaru-go no idoo-hyoogen [Motion expressions in Newar]. In Y. Matsumoto (Ed.) *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (65–94). Tokyo: Kurosio Publishers.

Shakya, D. R. 1992. Nominal and verbal morphology in six dialects of Newari. M.A. thesis, University of Oregon.

Slobin, D. I. 2004. The many ways to search for a frog: Linguistic typology and the expressions of motion events. In S. Stromqvist & S. Verhoeven (Eds.), *Relating events in narratives: Typological and contextual perspectives* (219–259). Mahwah, NJ: Erlbaum.

Talmy, L. 1976. Semantic causative types. In M. Shibatani (Ed.), *Syntax and semantics 6: The grammar of causative constructions* (43–116). New York: Academic Press.

Talmy, L. 1985a. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and syntactic description Vol. 3: Grammatical categories and the lexicon* (57–149). Cambridge: Cambridge University Press.

Talmy, L. 1985b. Force dynamics in language and thought. *Papers from the Twenty-First Regional Meeting of the Chicago Linguistic Society*, 293–337.

Talmy, L. 1991. Path to realization: A typology of event conflation. *Proceedings of the 17th Annual Meeting of the Berkeley Linguistics Society*, 480–517. https://doi.org/10.3765/bls.v17i0.1620

Talmy, L. 2000. *Toward a cognitive semantics*. Cambridge, MA: MIT Press.

Wilkins, D. P. & Hill, D. 1995. When "go" means "come": Questioning the basicness of basic motion verbs. *Cognitive Linguistics*, 6, 209–259. https://doi.org/10.1515/cogl.1995.6.2-3.209

Patterns of deictic expressions in Hungarian motion event descriptions

Kiyoko Eguchi

University of Miyazaki

This chapter aims to examine how deictic notions (Deixis) are expressed in Hungarian motion event descriptions. Hungarian is one of the languages in which Path is expressed in satellites and other "head-external elements" (Matsumoto 2017) (i.e. elements outside the main verb root). However, this does not apply to Deixis, although it is often regarded as a component of Path (Talmy 2000). Deixis in Hungarian is expressed in interesting ways, differently from Talmy's non-deictic Path notions (e.g. UP, INTO). It can be expressed in the main verb root, where Manner can also be expressed, or outside the main verb root, where Path can be expressed. In addition, different deictic elements can co-occur, and a (seemingly) identical notion can be specified in more than one slot in the same clause. The present chapter discusses the kinds of constraints that are placed on the use of each type of deictic expression, and investigates the circumstances under which expressions are chosen for use in descriptions of self-motion, caused motion, and the fictive motion of vision.

Keywords: competition, co-occurrence, deixis, head-external

1. Introduction

This chapter aims to examine how deictic notions (Deixis) are expressed in Hungarian motion event descriptions. Hungarian has been underrepresented in the typological study of motion event descriptions (cf. Eguchi 2017), as has Deixis. The present chapter is intended to show that there is a rich inventory of deictic expressions in Hungarian; this inventory provides an interesting opportunity to examine the way different coding devices are used to represent a component of motion events, and to examine how Deixis may be expressed differently from Path.

Discussions of motion event descriptions in different languages in previous studies have centered on how Manner and Path are expressed. The most significant

proposal has been made by Talmy (1985, 1991, 2000). He advocates a typology of motion event descriptions based on the patterns by which each language codes the Path of motion. According to this typology, languages are classified into two types: verb-framed languages (V-languages) that express Path through the verb, and satellite-framed languages (S-languages) that express path through "satellite" elements in his terminology, i.e. certain elements outside the verb, such as particles. In English, Path is expressed using particles (or prepositions) rather than through the verb, as in (1a). Therefore, English is classified as an S-language. In contrast, Spanish expresses Path in the main verb, as in (1b), so it is classified as a V-language.

(1) a. *The bottle floated **out** (of the cave).*   (Talmy 1985: 69)
     b. *La botella **salió**   de   la   cueva flotando.*
         the bottle   moved.out from the cave   floating
         'The bottle exited from the cave, floating.'

In this regard, Hungarian exhibits the pattern of an S-language, with Manner usually expressed in main verbs, and Path in satellites, as in (2), in which the pre-verb *ki-* is used to represent Path.

(2) *A   palack   ki-sodród-ott   a   barlang-ból.*
     the bottle.NOM out-float-PST.3SG.INDEF the cave-ELA
     'The bottle floated out of the cave.'

In fact, Talmy (2000: 102) classifies Hungarian as a satellite-framed language. However, the term "satellite-framed language" is somewhat inappropriate for Hungarian; it also expresses Path in nominal suffixes, as in the case of the elative marker in (2), which do not strictly count as satellites since they are not "in a sister relation to the main verb root" (Talmy 2000: 102).

The picture is more complex if we consider different components of Talmy's Path. Talmy (2000) identifies three components of Path: Conformation, Vector, and Deixis. Deixis in motion event descriptions refers to the change of location of the Figure in relation to the position of the deictic center, usually the speaker: e.g. 'toward the speaker' and 'not toward the speaker,' i.e. *hither* and *thither*. It is particularly important from the typological viewpoint because it often behaves differently from Talmy's other Path components or their combinations, such as Vector (e.g., TO) and Vector+Conformation (e.g., INTO). Matsumoto (2017) and Matsuse (this volume) show that Deixis appears in a morpho-syntactically special slot in various languages. In Kathmandu Newar, for example, Deixis is indicated in the main verb, while Talmy's other Path components are represented in case suffixes and adverbs. Languages like Japanese, Korean, and Mandarin Chinese have a special verb slot for Deixis, and there is a slot specifically for deictic prefixes in German. In addition, by

analyzing a Japanese novel in comparison with its translations, Koga et al. (2008) point out that Japanese speakers mention Deixis more often than Russian, German, and English speakers, which are known to mention Path very often; Deixis thus exhibits a pattern different from Path. Therefore, I divide Talmy's Path components into deictic versus non-deictic components, or simply "Deixis" and "Path," henceforth, and analyze them separately in this study.

Deixis in Hungarian is expressed quite differently from Path. There are deictic verbs which can be used in the main verb, as in (3): the deictic verb is the underlined *jö* 'come'.

(3)　*Erika*　　*ki-jö-tt*　　　　　　*a*　*szobá-ból.*
　　　Erika.NOM　out-come-PST.3SG.INDEF　the　room-ELA
　　　'Erica came out of the room.'

In contrast, there are only a restricted number of path verbs (as shown in Section 2.2).

One feature of Hungarian deictic expressions is that there are various ways to express Deixis: it does not necessarily need to be expressed in a verb, but can be expressed by other elements, such as preverbs (e.g., *ide-* 'hither'), adverbs (e.g., *ide* 'hither'), and the combination of a case marker or an adposition and the first person pronominal *-m* (i.e. *hozzá-m* 'to me', *felé-m* 'toward me'). Thus, deictic information can be overtly "distributed" in more than one place within a clause (cf. Sinha and Kuteva 1995), inviting an examination of how each deictic expression is different. In this chapter I examine how Deixis is expressed in these items in Hungarian motion event descriptions, paying attention to different roles played by different deixis-marking devices, and discussing why these multiple positions are needed.

To remark on the terminology, I use the term "head-external" elements to cover preverbs, adverbs, case suffixes, and other items that occur outside the main verb root, following Matsumoto (2017). This term is more inclusive than "satellites" and is more useful in motion event descriptions in Hungarian. Accordingly, I refer to the conventional V-languages as "head path-coding languages" and to S-languages as "head-external path-coding languages" in this chapter.

2.　Basic facts of Hungarian and its motion event descriptions

In this section I give a brief overview of the Hungarian language as it relates to the description of motion events. I begin with a description of its morpho-syntactic characteristics (Section 2.1), and then describe the elements related to motion event descriptions (Section 2.2).

2.1   Morpho-syntactic characteristics of Hungarian

Hungarian is a member of the Finno-Ugric language family and is classified as an agglutinative language, in which grammatical functions are expressed by case suffixes. The word order is flexible in general, but there are strict rules based on information structure. The most common position for Topic, if any, is at the beginning of the sentence, and the focused element must be placed immediately before the verb, as in (4). In (4a) *Erika* 'Erica' is regarded as a topic element and *a szobá-ba* '(in)to the room' as a focused element, while in (4b) *a szobá-ba* '(in)to the room' is regarded as a topic element and *Erika* 'Erica' as a focused element, as shown in their translations.

(4)   a.   *Erika   a   szobá-ba   ment.*
              Erica.NOM the room-ILL go.PST.3SG.INDEF
              'As for Erica, it was the room that she went into/toward.'
       b.   *A   szobá-ba   Erika   ment.*
              the room-ILL Erica.NOM go.PST.3SG.INDEF
              'As for the room, it was Erica that went into it.'

2.2   Elements relevant to motion event descriptions

In terms of the typology of motion expressions, Hungarian can be considered a head-external path-coding language, wherein typically Path is encoded outside the main verb root (Eguchi 2017). As mentioned in Section 1, the language has a restricted number of path verbs.

The categories by which elements of motion events are described in Hungarian are: verbs (V), adverbal elements such as preverbs (Prev) and adverbs (Adv), and adnominal elements such as postpositions (P) and case affixes (aff) (Eguchi 2017). These can be schematically represented as in (5).

(5)   Prev=V Adv {[$_{PP}$ NP P] / [$_{NP}$ … N-aff]}

The use of a preverb and a case suffix is exemplified in (6).

(6)   a.   *Erika   fel-dob-ta   a   labdá-t.*[1]
              Erica. NOM up-throw-PST.3SG.DEF the ball-ACC
              'Erica threw the ball up.'

---

1.   In (6a) the main verb is in the definite conjugation. In Hungarian, verbs not only show agreement with their subjects but also carry information on the definiteness of their direct objects. Therefore, there are two types of conjugations: definite conjugation is used if there is a definite object and indefinite conjugation is used if there is no definite object. In Example (i) the verb *tanul*

b. *Erika   fel-néz-ett   az ég-re.*
    Erica. NOM up-look-PST.3SG.INDEF the sky-SUB
    'Erica looked up at the sky.'

Postpositions express only restricted path notions not covered by case suffixes (e.g., *mögé* 'to behind', *felé* 'toward', *keresztül* 'across'), but are not discussed in detail in this chapter (see Eguchi 2017: 45).

Hungarian has nine spatial case suffixes; importantly, there are six case suffixes referring to Path, listed in Table 1 together with related cases for location categories. They code 'source' FROM and 'goal' TO, or these in combination with positional relations with a Ground of a particular configuration, e.g. *-bA* (TO.IN).[2] The Ground in (4) is a room that is a closed space, so *-bA* (TO.IN) is appropriate, but *-hVz* (TO.AT) is not. The combinations of three positions (IN, ON, AT) and TO and FROM are shown in Table 1. Locative forms are also given for comparison.

Table 1. Spatial suffixes in Hungarian

	IN	**ON**	**AT**
TO	*-bA* (ILL)	*-rA* (SUB)	*-hVz* (ALL)
FROM	*-bÓl* (ELA)	*-rÓl* (DEL)	*-tÓl* (ABL)
location	*-bAn* (INE)	*-(V)n* (SUP)	*-nÁl* (ADE)

'study' is used in the indefinite conjugation because there is no object, whereas in Example (ii) it is used in the definite conjugation because there is a definite object a *japán nyelv-et* 'the Japanese language'.

(i) *Erika   tanul.*
    Erica.NOM study.3SG.INDEF
    'Erica {studies / is studying}.'

(ii) *Erika   a japán   nyelv-et   tanul-ja.*
    Erica.NOM the Japanese language-ACC study-3SG.DEF
    'Erica {studies / is studying} the Japanese language.'

2.   Hungarian words can be divided into three types according to the vowels they contain: front, back, and mixed vowel words. Most of these endings have two or more forms so that the vowel of the suffix must harmonize with the vowels of the word it is added to. In this chapter, "A" stands for two alternating sounds e/a used in allomorphs, "Ó" for: ó/ő, and "V" for: o/ö/e.

Path preverbs are shown in (7). The preverbs derived from adverbs are listed in (7a), the preverbs from case suffixes are in (7b), and the preverbs from postpositions are in (7c) (Eguchi 2017: 47).[3]

(7)   a.   *be* 'to.in', *bele* 'to.in', *ki* 'out', *fel* 'up', *le* 'down', *el* 'away', *előre* 'to.far.in.front', *hátra* 'to.far.in.back', *vissza* 'to.original.location', *haza* 'to.home', *ide* 'to.here', *oda* 'to.there'

      b.   *rá* 'to.on', *hozzá* 'to.at'

      c.   *alá* 'to.under', *fölé* 'to.above', *közé* 'to.among', *elé* 'to.in.front', *mögé* 'to.behind', *mellé* 'to.beside', *köré* 'around', *körül* 'around', *át* 'through', *keresztül* 'across'

Forms identical to these preverbs are also used as adverbs.[4]

---

3.   Only the preverbs related to Path are listed in (7). There are other preverbs that are not related to Path notions as listed in (i). This list is based on Ackerman (1992), who argues that there are two types of preverbs: preverbs with the feature of directionality [+DIR] and preverbs without that feature [−DIR]. Researchers disagree on the list of items regarded as preverbs (see Bárczi et al. 1967; Jacab 1976).

(i)   *meg* 'PERF', *benn* 'at.in', *kinn* 'at.out', *fenn* 'above', *lenn* 'below', *itt* 'here', *ott* 'there', *együtt* 'together', *össze* 'together', *külön* 'apart', *szét* 'asunder', *tele* 'fully', *túl* 'over', *tovább* 'ahead', *újra* 'again', *utána* 'after', *elő* 'fore', *agyon* 'entirely', *egybe* 'in.one', *észre* 'into.awareness', *félbe* 'into.halves', *félre* 'aside', *helyre* 'to.the.place', *ketté* 'in.two', *körbe* 'round', *körbe* 'inter-', *közben* 'in.the.interval', *közre* 'co-', *közzé* 'to.public', *létre* 'into.life', *végbe* 'to.the.end', *véghez* 'to.at.the.end', *végig* 'till.the.end', *végre* 'finally', *szembe* 'in.the.face', *tönkre* 'to.ruin', *rajta* 'on', *neki* 'to'

4.   The distinction between preverbs and adverbs is a subtle one. Forms identical to preverbs can be placed in non-preverbal positions (e.g., (ib)) and the term adverb has often been used in some such cases in traditional grammar. The choice of the two depends on the information structure of the sentence. In informationally unmarked sentences (i.e. without focused elements), usually the preverb immediately precedes the verb, with the arguments of the verb following the verb, as shown in (ia). In this case there is phonological evidence (stress placement) suggesting the one-word status of preverb+verb (Kiefer and Honti 2003).

(i)   a.   *Erika*   *be-ment*   *a   szobá-ba.*
            Erica.NOM   into-go.PST.3SG.INDEF   the room-ILL
            'Erica went into the room.'

      b.   *A   szobá-ba   Erika*   *ment*   *be.*
            the room-ILL   Erica.NOM   go.PST.3SG.INDEF into
            'As for the room, it was Erica that went into it.'

In the sentences with focused elements, however, the focused element occupies the preverbal position, and a form identical to the preverb follows the verb, as in (ib). É. Kiss (1992, 1998, 1999, 2002) has argued that these forms used in different positions are of the same lexical category. In this chapter I use the term 'adverb' to refer to the items placed in non-preverbal positions for convenience.

The path verbs in Hungarian are limited, and are listed in (8). They are only for vertical path (8a), approaching and leaving (8b), and arrival and departure (8c); there are no verbs for 'enter', 'exit', 'cross', or 'pass' (Eguchi 2017: 50).

(8) a. *esik* 'fall, rain', *hull* 'fall', *zuhan* 'fall, decrease (suddenly)', *süllyed* 'sink', *emelkedik* 'rise', *mészik* 'climb'

   b. *közeledik* 'approach', *közeleg* 'approach', *távolodik* 'leave', *távozik* 'leave'

   c. *érkezik* 'arrive', *jut* 'arrive', *indul* 'depart'

These verbs are often used with preverbs, which express Path notions, as shown in (9).

(9) a. *Le-zuhan-t   a   helicopter.*
        down-fall-PST.3SG.INDEF the helicopter.NOM
        'The helicopter crashed.'

   b. *A   hajó   el-távolod-ott   a   part-ról.*
        the ship.NOM away-leave-PST.3SG.INDEF the shore-DEL
        'The ship receded away from the shore.'   (Eguchi 2017: 51)

There are many manner verbs, as listed in (10) (cf. Eguchi 2017: 49). The verbs in (10b, c) are ideophones; those in (10b) are nononomatopoeic ideophones representing the manner of motion, while the verbs in (10c) are onomatopoeic verbs representing the sound caused by the motion.

(10) a. *sétál* 'walk', *gyalogol* 'walk', *lép* 'step', *jár* 'walk', *halad* 'proceed', *siet* 'hurry', *rohan* 'rush', *szalad* 'scoot', *repül* 'fly', *csúszik* 'slip', *folyik* 'stream', *száll* 'wing', *úszik* 'swim', *ugrik* 'jump', *gurul* 'roll'

    b. *battyog* 'shlep', *cammog* 'shamble', *ballog* 'saunter', *kullog* 'lag'

    c. *csoszog* 'shuffle', *kocog* 'jog', *topog* 'stamp', *totyog* 'waddle', *döcög* 'jolt', *zötyög* 'wobble'

These verbs can be used as the main verb or as a participle.

An important point to note is that Hungarian has multiple means to express (nearly) the same Path notion in more than one slot, as in (11a) (where the bolded preverb **be-** and the bolded illative case suffix **-ba** both express the same Path notion). It is also possible for only a case suffix to be used as in (11b).

(11) a. *Erika   **be**-fut-ott   a   szobá-**ba**.*
        Erica.NOM into-run-PST.3SG.INDEF the room-ILL
        'Erica ran into the room.'

    b. *Erika   a   szobá-**ba** fut-ott.*
        Erica.NOM the room-ILL   run-PST.3SG.INDEF
        'Erica ran toward the inside of the room'

The difference between (11a) and (11b) is that the sentence with the preverb (11a) means that the Figure moved to the inside of the room, while this might be but is not necessarily the case in (11b). In (11a) the preverb *be-* suggests that the motion is completed and that Erica is inside the room (see Section 3.1; Kiefer 1992; Eguchi 2007), while (11b) does not necessarily mean that the event was completed and that Erica went inside the space; she may have only run toward that direction. The illative case suffix *-bA* is used in (11b) simply because the Ground is a closed space.

Now let us consider deictic notions. Deixis is different from Path in that it is commonly expressed in the main verb root unlike Path. Hungarian has two pairs of verbs that express Deixis: two self-motion verbs, *jön* 'come' and *megy* 'go', and two caused-motion verbs, *hoz* 'bring' and *visz* 'take', which can be used as a main verb in a sentence, as in (12).

(12) a. *Erika   be-jö-tt   a   szobá-ba.*
          Erica.NOM into-come-PST.3SG.INDEF the room-ILL
          'Erica came into the room.'
      b. *Erika   be-vi-tt-e   a   szék-et   a   szobá-ba.*
          Erica.NOM into-take-PST-3SG.DEF the chair-ACC the room-ILL
          'Erica took the chair into the room.'

In addition, some Hungarian morphemes other than verbs can express Deixis. There are three word classes that can express Deixis: preverbs (*ide-* 'hither,' *oda-* 'thither'), adverbs (*ide* 'hither,' *oda* 'thither'), and a form involving a case marker and the first person singular pronominal *-m* or plural pronominal *-nk* (case-marked pronominals), e.g. *hozzá-m* 'to me', *hozzá-nk* 'to us', which contain the allative marker *hVz*. This allative marker is usually a suffix but in this particular instance it occurs before the pronoun.[5] Deixis can be doubly or triply expressed with these means. (13) exemplifies three elements expressing Deixis.

(13) *Erika   be-jö-tt   ide   hozzá-m a   szobá-ba.*
      Erica.NOM into-come-PST.3SG.INDEF hither ALL-1SG the room-ILL
      'Erica came into the room to me.'

Table 2 summarizes the elements used in Hungarian to describe motion events.

The multiplicity of the slots for Deixis seems to make it a complex task to choose how to express it. Path can also be expressed in more than one place (e.g. preverb and case suffixes), as in (13), but due to the poverty of path verbs, there are fewer positions for Path in comparison to Deixis. How are these deictic expressions different from each other in their conditions of use? Why are multiple positions

---

5.   There is also a similar form with the adposition *felé* 'toward' (*felé-m* 'toward me'), composed of *felé* 'toward' (which is usually a postposition) and the first person singular pronominal *-m*.

Table 2. Expressions of Deixis, Path, and Manner: Self-motion

Position	HEAD	HEAD-EXTERNALS		
Components	Verb	Preverb/Adverb	P/Case suffix	PP/Cased (pro)nominal
Deixis	✓	✓	–	✓
Path	(✓)	✓	✓	–
Manner	✓	–	–	–

needed? I examine this in detail in the following sections, and I argue that there are two key issues to consider. The first concerns the semantic and pragmatic differences between the choice of some of these positions, and the other is the competition between Deixis and Manner/Path for a particular slot.

3. Semantic/pragmatic properties of each deictic expression

In this section, I address the first concern, that is, the semantic and pragmatic differences in the use of different deictic expressions. I show that there are differences in three respects: aspectual properties (Section 3.1), the speaker's domain (Section 3.2), and the practical limitations of using case-marked pronominals (Section 3.3).

3.1 Aspectual properties: Preverb and adverb

If Deixis were expressed in all of the slots shown in Table 2, the sentence would look like (14), but this is ungrammatical.

(14) *Erika   ide-jö-tt   ide   hozzá-m.
     Erica.NOM hither-come-PST.3SG.INDEF hither ALL-1SG
     Lit. 'Erica came hither to me.'

The reason for this ungrammaticality is that the preverb *ide-* 'hither' and adverb *ide* 'hither' are aspectually different and therefore incompatible in meaning: preverbs are used to represent telic events, and adver bs, atelic events, at least when they are stressed (Kiefer and Honti 2003), as shown in (15).[6]

(15) a. *Erika*   *ide-jö-tt*   *hozzá-m.*
         Erica.NOM hither-come-PST.3SG.INDEF ALL-1SG
         'Erica came here to me.'

---

6. Telicity here is grammatical in nature, indicating whether a goal is reached or whether an action is completed as intended (see Declerck (1989) and Depraetere (1995)).

b. *Erika   (éppen) jö-tt   ide   hozzá-m, amikor*
Erica.NOM just   come-PST.3SG.INDEF hither ALL-1SG when
lát-t-am.
see-PST-1SG.DEF
'Erica was (just) coming here to me, when I saw her.'

The same aspectual difference can also be exemplified by the caused motion expressions in (16).

(16) a. *Erika   ide-hoz-ta   hozzá-m a   könyv-et.*
Erica.NOM hither-bring-PST.3SG.DEF ALL-1SG the book-ACC
'Erica brought the book here to me.'
b. *Erika   (éppen) hoz-ta   ide   hozzá-m a   könyv-et,*
Erica.NOM just   bring-PST.3SG.DEF hither ALL-1SG the book-ACC
amikor lát-t-am.
when   see-PST-1SG.DEF
'Erica was (just) bringing the book here to me, when I saw her.'

It should be noted that these aspectual properties can be found not only with deictic preverbs but also with path preverbs (see (11) above).

3.2   The speaker's domain: Verb vs. others

There is also a subtle difference between deictic verbs and deictic preverbs concerning the location of the goal of motion. Matsumoto *et al.* (2017) argue that verbs expressing 'come' in many languages are typically used for motion in which a moving entity moves to share a space with the speaker – called the speaker's (interactional) space – which is often defined by the spatial limits of potential interaction and visibility. Verbs that express 'come' can be used for such motion, they point out, even when the goal of motion is not the speaker's location. Consider, for example, the following situation. The speaker is on one side of a river, and someone else crosses from the other side of the river to the speaker's side, but to a place where a bicycle is located, which is relatively far from the speaker. In such a situation, the speaker can say (17).

(17) *Erika   oda-jö-tt   a   bicikli-hez a   folyó ez-en*
Erica.NOM thither-come-PST.3SG.INDEF the bicycle-ALL the river this-SUP
az   oldal-á-n.
the side-POSS.3SG-SUP
'Erica came thither to the bicycle on this side of the river.'

A folyó ez-en az oldal-á-n 'this side of a river' where the speaker is located is the speaker's space, and motion into this space counts as 'coming' even when it is not toward the speaker. The preverb *ide-* 'hither' does not have this property, and it cannot be used in (17). Note that *oda-* 'thither' is used in this sentence without creating a contradiction. Case-marked pronominals like *hozzá-m* cannot be used in (17), either, since they represent motion to(ward) the speaker's location.

4.   Competition between Deixis and Manner/Path

Other conditions for the use of different deictic elements in Hungarian involve competition with other meaning elements for each syntactic slot. Deictic verbs and deictic preverbs are not the only morphemes that can go into the verb and preverb slots. The verb and preverb slots are alternatively filled by a manner verb and a path preverb, respectively. Deixis is expressed in these slots as opposed to Manner and Path. In the next sections, I explore linguistic descriptions of self-motion (Section 4.1), caused motion (Section 4.2), and the fictive motion of vision (Section 4.3) in this respect.

Sentences expressing self-motion, caused motion, and the fictive motion of vision are exemplified in (18a, b), (18c), and (18d), respectively.

(18) a.   *Erika*   ***be**-fut-ott*   *a   szobá-**ba**.*
Erica.NOM into-run-PST.3SG.INDEF the room-ILL
'Erica ran into the room.'

b.   *A   labda   **be**-gurul-t*   *a   kapu-**ba**.*
the ball.NOM into-roll-PST.3SG.INDEF the goal-ILL
'The ball rolled into the goal.'

c.   *Erika   **be**-rúg-ta*   *a   labdá-t a   kapu-**ba**.*
Erica.NOM into-kick-PST.3SG.DEF the ball-ACC the goal-ILL
'Erica kicked the ball into the goal.'

d.   *Erika   **be**-néz-ett*   *a   szobá-**ba**.*
Erica.NOM into-look-PST.3SG.INDEF the room-ILL
'Erica looked into the room.'

The difference between self-motion and caused motion is whether the Figure undergoes the movement voluntarily or spontaneously, or whether it is caused to undergo the movement. In Example (18a), the Figure Erica voluntarily carried out the action of running; in contrast, in Example (18c), Erica, as a causer, caused the rolling of the Figure *labda* 'ball' into the *kapu* 'goal'. (18b) is also a self-motion event, in which the Figure *labda* 'ball' undergoes the movement of rolling. Fictive motion is a non-literal type of motion in which motion is ascribed to entities that are not in fact moving, like a glance implicit in (18d).

4.1   Self-motion

Deixis can be expressed in the main verb, preverb/adverb, and/or case-marked pronominal in self-motion expressions. However, as one can see from Table 2, the main verb slot is not just used for expressing Deixis but also for Manner, and preverbs are not just used for expressing Deixis but also for Path. Competition occurs because each slot allows only one element to fill it. The choice of these elements for these slots depends on whether high priority is assigned to Deixis, Manner, or Path. Such priorities vary according to the subcategories of Deixis/Manner/Path. In what follows, I show that the priority is determined by whether Path is TO/TOWARD or not; whether Deixis is 'hither' or not; and whether Manner is 'walk' or not. The first distinction determines the choice of preverbs (Section 4.1.1), and the second and the third distinctions determine the choice of the verb (Section 4.1.2).

There is no such competition for PPs, case-marked (pro)nominals, or adverbs since more than one element can co-occur in a sentence. In (19) there are two case-marked (pro)nominals: *hozzá-m* 'to me' with the allative case suffix, and *a szobá-ba* 'into the room' with the illative case suffix.

(19) *Erika   be-fut-ott   hozzá-m a   szobá-ba.*
       Erica.NOM into-run-PST.3SG.INDEF ALL-1SG the room-ILL
       'Erica ran into the room to me.'

4.1.1   *Path and the preverb*
The use of the deictic preverb depends on the type of Path expressed. The most typical sentence pattern describing motion with a Path, like UP or INTO, has a preverb slot occupied by Path, as in (20b–c). Deixis is expressed in the preverb only if no preverb is available, such as when the Path is TO/TOWARD, as in (20a). There is no preverb representing TO alone; all preverbs containing the element TO additionally encode positional relations with a Ground, e.g. *be-* (TO.IN), *alá-* (TO.UNDER).

(20) a. *Erika   oda-ment   a   bicikli-hez.*
           Erica.NOM thither-go.PST.3SG.INDEF the bicycle-ALL
           'Erica went to the bicycle.'
      b. *Erika   fel-ment   a   lépcső-n.*
           Erica.NOM up-go.PST.3SG.INDEF the stairs-SUP
           'Erica went up the stairs.'
      c. *Erika   be-ment   a   szobá-ba.*
           Erica.NOM into-go.PST.3SG.INDEF the room-ILL
           'Erica went into the room.'

These points are summarized in Table 3.

Table 3. Types of Path and the expression of Deixis and other components in self-motion

Path \ Position	HEAD Verb	HEAD-EXTERNALS	
		Preverb/Adverb	PP/ Cased (pro)nominals
TO/TOWARD	Manner/ Deixis	Deixis	Path + Ground / Deixis
INTO, UP, etc.		Path	Path + Ground / Deixis

4.1.2 *Manner/Deixis and the verb*

Deixis can be expressed in the main verb, preverb/adverb, and/or case-marked pronominal in self-motion expressions. However, as one can see from Table 2, the main verb slot is not just used for expressing Deixis but can also be used for Manner (and Path in some cases). This situation is somewhat similar to English, which also has deictic verbs. English, however, favors encoding Manner in the main verb in motion events (Talmy 1991; Slobin 1996; Hendriks and Hickmann 2011; Matsumoto et al. 2017; Mano et al. 2018); in other words (21a) is more often used by English speakers than (21b).

(21) a. *Erica ran into the room towards me.*
      b. *Erica came running into the room.*

The use of deictic verbs in Hungarian depends on the type of Manner and Deixis expressed (cf. French data in Morita (this volume)). When the Manner is walking, Deixis is usually expressed in the main verb as in (22). Analyzing data from a production experiment, Matsumoto (2014) and Yoshinari et al. (2016) have also pointed out that unlike in English, in Hungarian, deictic verbs are more often used as the main verb for the description of walking events, even though there are some manner verbs that express walking motion, e.g. *gyalogol* 'walk' and *sétál* 'walk'. In this case, Manner is not expressed even though head-external path-coding languages like Hungarian usually express Manner in the head.

(22) a. *Erika   ide-jö-tt   a   bicikli-hez.*
          Erica.NOM hither-come-PST.3SG.INDEF the bicycle-ALL
          'Erica came here to the bicycle.'
      b. *Erika   fel-jö-tt   a   lépcső-n.*
          Erica.NOM up-come-PST.3SG.INDEF the stairs-SUP
          'Erica came up the stairs.'
      c. *Erika   be-jö-tt   a   szobá-ba.*
          Erica.NOM into-come-PST.3SG.INDEF the room-ILL
          'Erica came into the room.'

In contrast, marked Manners (e.g. running, rushing) are expressed differently. The manner of running is expressed in the main verb, as in (23) and (24), and deixis is expressed in the preverb or, if 'hither', by case-marked pronominal *hozzá-m* 'to me', as in (23).

(23) a. *Erika   ide-fut-ott   hozzá-m a bicikli-hez.*
          Erica.NOM hither-run-PST.3SG.INDEF ALL-1SG the bicycle-ALL
          'Erica ran here to me to the bicycle.

      b. *Erika   fel-fut-ott   hozzá-m a lépcső-n.*
          Erica.NOM up-run-PST.3SG.INDEF ALL-1SG the stairs-SUP
          'Erica ran up the stairs to me.'

      c. *Erika   be-fut-ott   hozzá-m a szobá-ba.*
          Erica.NOM into-run-PST.3SG.INDEF ALL-1SG the room-ILL
          'Erica ran into the room to me.'

(24) a. *Erika   oda-fut-ott   a   bicikli-hez.*
          Erica.NOM thither-run-PST.3SG.INDEF the bicycle-ALL
          'Erica ran thither to the bicycle.'

      b. *Erika   fel-fut-ott   a   lépcső-n.*
          Erica.NOM up-run-PST.3SG.INDEF the stairs-SUP
          'Erica ran up the stairs.'

      c. *Erika   be-fut-ott   a   szobá-ba.*
          Erica.NOM into-run-PST.3SG.INDEF the room-ILL
          'Erica ran into the room.'

Not all marked Manners are expressed in the same way. The more marked the manner is considered, the more likely it is to be expressed by an adverbial participle than by a head verb, as in (25), although both positions are available. In this case the main verb slot is used to express Deixis.

(25) a. *Erika   sántikál-va oda-ment   a   bicikli-hez.*
          Erica.NOM shuffle-PTCP thither-go.PST.3SG.INDEF the bicycle-ALL
          'Erica went to the bicycle with a limp.'

      b. *Erika   sántikál-va fel-ment   a   lépcső-n.*
          Erica.NOM shuffle-PTCP up-go.PST.3SG.INDEF the stairs-SUP
          'Erica went up the stairs with a limp.'

      c. *Erika   sántikál-va be-ment   a   szobá-ba.*
          Erica.NOM shuffle-PTCP into-go.PST.3SG.INDEF the room-ILL
          'Erica went into the room with a limp.'

These examples are important because Deixis is expressed in the main verb even when both Manner and Path are expressed as well.

These points are summarized in Table 4.

Table 4. Types of Manner and the expression of Deixis and other components in self-motion

Position / Manner types	HEAD Verb	HEAD-EXTERNALS		
		Preverb/Adverb	PP/ Cased (pro)nominals	Participles
walking	Deixis	Path / Deixis (if TO/TOWARD is described)	Path + Ground, Deixis	–
marked	Manner			(Manner)
very marked	(Manner)/Deixis			Manner

4.2   Caused motion

For the expression of Deixis in caused motion, there are four slots in all, as with self-motion. Table 5 shows the expression patterns for caused motion.

Table 5. Expression of Deixis, Path, and Cause/Means: Caused motion

Position / Components	HEAD Verb	HEAD-EXTERNALS		
		Preverb/Adverb	P/Case suffix	PP/Cased pronominals
Deixis	✓	✓	–	✓
Path	(✓)	✓	✓	–
Cause/Means	✓	–	–	–

In some respects, these slots are used similarly in caused motion and self-motion, but in other respects, their use differs across the two types of motion events.

As in self-motion, there are only a restricted number of path verbs, e.g. *emel* 'raise', *ejt* 'drop, let something fall' (cf. Eguchi 2017: 55–56), and the main verb position is a slot for which there is competition mainly between Deixis and Means of causation (e.g. throwing, calling, carrying), while the preverb slot invites competition between Deixis and Path. The use of the deictic preverb depends on the type of Path involved: as in self-motion, a deictic preverb is preferred when no path preverb is available for the situation being described (i.e. when the Path is TO/TOWARD), as in (26a) in comparison to (26b, c).

(26) a. *Erika   ide-dob-ta   nek-em   a   labdá-t.*
          Erica.NOM hither-throw-PST.3SG.DEF DAT-1SG the ball-ACC
          'Erica threw the ball here to me.'

    b. *Erika*   *fel-dob-ta*   *nek-em a labdá-t az*
       Erica.NOM up-throw-PST.3SG.DEF DAT-1SG the ball-ACC the
       emelet-re.
       first.floor-SUB
       'Erica threw the ball up to me to the first floor.'
    c. *Erika*   *be-dob-ta*   *nek-em a labdá-t a szobá-ba.*
       Erica.NOM into-throw-PST.3SG.DEF DAT-1SG the ball-ACC the room-ILL
       'Erica threw the ball into the room to me.'

There are different kinds of causation, and interestingly, the type of causation involved determines the potential for the use of a deictic verb as the main verb. An important difference to consider is the one between "co-motional" caused motion and other caused motion. In co-motional caused motion, the causer moves together with the moving entity (Matsumoto this volume). In this case, Deixis can be expressed by the verb, as in (27). In addition, it can be indicated by a preverb if a TO/TOWARD path is described.

(27) a. *Erika*   *oda-vi-tt-e*   *a könyv-et Mari-nak.*
       Erica.NOM thither-took-PST.3SG.DEF the book-ACC Mary-DAT
       'Erica took the book there to Mary.'
    b. *Erika*   *ide-hoz-ta*   *nek-em a könyv-et.*
       Erica.NOM hither-bring-PST.3SG.DEF DAT-1SG the book-ACC
       'Erica brought the book here to me.'

    Deixis in co-motional caused motion events with UP or INTO paths is described by the verb, but not by a preverb, as in (28).

(28) a. *Erika*   *fel-vi-tt-e*   *nek-em a könyv-et az*
       Erica.NOM up-take-PST.3SG.DEF DAT-1SG the book-ACC the
       emelet-re.
       first.floor-SUB
       'Erica took the book up to the first floor (from the ground floor) to me.'
    b. *Erika*   *be-hoz-ta*   *nek-em a könyv-et*
       Erica.NOM into-bring-PST.3SG.DEF DAT-1SG the book-ACC
       a szobá-ba.
       the room-ILL
       'Erica brought the book into the room to me.'

The main verb position in (27) and (28) can be alternatively occupied by verbs like *hordoz* 'carry', representing Means of causation but not Deixis.

    In other types of caused motion, the verb slot is usually used for causation and its means. The sentences in (29) are descriptions of throwing events, and those in (30) are descriptions of calling events.

(29)   a.   *Erika   oda-dob-ta   a   labdá-t   Mari-nak.*
            Erica.NOM thither-throw-PST.3SG.DEF the ball-ACC Mary-DAT
            'Erica threw the ball there to Mary.'

       b.   *Erika   fel-dob-ta   nek-em a   labdá-t   az*
            Erica.NOM up-throw-PST.3SG.DEF DAT-1SG the ball-ACC the
            emelet-re.
            first.floor-SUB
            'Erica threw the ball up to the first floor to me.'

       c.   *Erika   be-dob-ta   nek-em a   labdá-t   a   szobá-ba.*
            Erica.NOM into-throw-PST.3SG.DEF DAT-1SG the ball-ACC the room-ILL
            'Erica threw the ball into the room to me.'

(30)   a.   *Erika   ide-hív-ta   hozzá-m Mari-t.*
            Erica.NOM hither-call-PST.3SG.DEF ALL-1SG Mary-ACC
            'Erica called Mary here to me.'

       b.   *Erika   fel-hív-ta[7]   hozzá-m Mari-t   az emelet-re.*
            Erica.NOM up-call-PST.3SG.DEF ALL-1SG Mary-ACC the first.floor-SUB
            'Erica called Mary up to the first floor to me.'

       c.   *Erika   be-hív-ta   hozzá-m Mari-t   a   szobá-ba.*
            Erica.NOM into-call-PST.3SG.DEF ALL-1SG Mary-ACC the room-ILL
            'Erica called Mary into the room to me.'

Note that a preverb with the verb *hív* 'call' indicates the Path of the Figure expressed in the object, not the Path of emanation, i.e. the voice in calling.

These points are summarized in Table 6.

Table 6. Preferred expression patterns for caused motion

Type \ Position	HEAD Verb	HEAD-EXTERNALS	
		Preverb/Adverb	PP/Cased pronominals
co-motional	Deixis, Means of Causation	Path, Deixis (if TO/TOWARD is described)	Path + Ground, Deixis
other	Means of Causation		

---

7.   *Fel-hív* 'call up' is also used in the sense of 'make a phone call'.

4.3   Fictive motion of vision

In the fictive motion of vision, the verb slot is occupied by the verb of vision, as in (31). There is no verb of vision that also codes Deixis (e.g. 'look this way'). Deixis is expressed in preverb (bolded *ide-* 'hither') or case-marked pronominals (bolded *hozzá-m* 'to me').

(31) a. *Erika*   ***ide-néz-ett***   ***hozzá-m***.
          Erica.NOM hither-look-PST.3SG.INDEF ALL-1SG
          'Erica looked here to me.'
      b. *Erika*   *fel-néz-ett*   ***hozzá-m*** *az emelet-re*.
          Erica.NOM up-look-PST.3SG.INDEF   ALL-1SG the first.floor-SUB
          'Erica looked up to the first floor to me.'
      c. *Erika*   *be-néz-ett*   ***hozzá-m*** *a   szobá-ba*.
          Erica.NOM into-look-PST.3SG.INDEF ALL-1SG the room-ILL
          'Erica looked into the room to me.'

These points are summarized in Table 7.

Table 7. Preferred expression patterns for the fictive motion of vision

Position	HEAD	HEAD-EXTERNALS	
Type	**Verb**	**Preverb/Adverb**	**PP/Cased pronominals**
Fictive motion of vision	Vision	Deixis/Path	Path + Ground, Deixis

5.   Conclusion

In Hungarian, Deixis can be expressed in four different syntactic positions. In this chapter, I have shown various conditions for the use of Hungarian deictic expressions. Adverbs and preverbs are used for atelic and telic motion events, respectively. Deictic verbs are sensitive to the notion of the speaker's domain (rather than the simple notion of the speaker's location), unlike preverbs and case-marked pronominals.

Deixis can be expressed in the main verb position under certain circumstances. In self-motion, it is expressed in the main verb for walking events, and to some extent for more marked Manners when such Manners are expressed by a participle. In caused motion, Deixis is expressed in the main verb when the type of causation is co-motional. In the fictive motion of vision, Deixis cannot appear in the main verb, but is expressed in a preverb or a case-marked pronominal. The preverb inventory

in Hungarian does not include a preverb that expresses TO/TOWARD; motion events with such a Path are typically expressed with a deictic preverb instead of a path preverb. The competition of Deixis with other categories for the main verb and preverb positions suggests that the multiple positions available for Deixis play the role of providing back-up options: some position will still be available even when Deixis cannot be expressed in another specific position.

These observations suggest that each of the four slots for Deixis has its own functions and constraints. Deixis in Hungarian is a good example of a motion component distributed within a clause (Sinha and Kuteva 1995), but it is also a good example of different slots existing for the same component to serve different functions.

This chapter also suggests that Deixis behaves differently from Path. Path is expressed almost consistently in the preverb/adverb and the postposition/case suffix, and not in the verb, and this is the same for self-motion, caused motion, and the fictive motion of vision (except that there are a few path verbs for vertical path for self-motion and caused motion). Deixis, in contrast, can be expressed in the main verb under certain circumstances in self-motion and caused motion, though not in the fictive motion of vision. This means that Hungarian clearly employs head-external coding of Path, but this is not true of Deixis.

The main verb coding of Deixis in Hungarian depends on a few factors. It is relatively frequent in self-motion but it is restricted to the co-motional type among different caused motion types, and it cannot be expressed by the verb for the fictive motion of vision at all. Such a pattern appears to be common crosslinguistically (see Matsumoto this volume), and calls for an explanation.

The findings of this chapter add further evidence to a recent claim concerning Deixis and Path. Matsuse (this volume) points out that in Kathmandu Newar, Deixis is expressed in the main verb position consistently for self-motion as well as caused motion, while Path notions are expressed in case makers and adverbs, arguing that the two can be very different in coding positions (see also Matsumoto et al. 2017). Future examination of more languages would help clarify the extent to which Deixis should be treated differently from Path in the typological discussion of motion event descriptions.

Abbreviations

1	first person
3	third person
ABL	ablative (case indicating the figure object's movement from the ground)
ACC	accusative
ADE	adessive (case indicating the figure object's existence at the ground)
ALL	allative (case indicating the figure object's movement to or towards the ground)
DAT	dative
DEF	definite
DEL	delative (case indicating the figure object's movement from the surface of the ground)
ELA	elative (case indicating the figure object's movement from inside the ground)
INDEF	indefinite
INE	inessive (case indicating the figure object's existence in the ground)
ILL	illative (case indicating the figure object's movement into the ground)
NOM	nominative
POSS	possessive
PST	past
PTCP	participle
SG	singular
SUB	sublative (case indicating the figure object's movement to the surface of the ground)
SUP	superessive (case indicating the figure object's existence at the surface of the ground)

Funding information

References

Ackerman, F. 1992. Complex predicates and morpholexical relatedness: Locative alternation in Hungarian. In I. Sag & A. Szabolcsi (Eds.), *Lexical Matters*, CSLI Lecture Note No. 24 (55–83). Stanford, CA: CSLI Publications.

Bárczi, G., Benkő, L., & Berrár, J. 1967. *A magyar nyelv története* [The history of the Hungarian language]. Budapest: Nemzeti Tankönyvkiadó.

Declerck, R. 1989. Boundedness and the structure of situations. *Leuvense Bijdragen*, 78, 275–308.

Depraetere, I. 1995. On the necessity of distinguishing between (un)boundedness and (a)telicity. *Linguistics and Philosophy*, 18, 1–19. https://doi.org/10.1007/BF00984959

Eguchi, K. 2007. Hangarii-go doosi-settoozi to go-keisei [Preverbs in Hungarian and their word formation]. Doctoral dissertation, Kobe University, Japan.

Eguchi, K. 2017. Hangarii-go ni okeru idoo-hyoogen [Motion expressions in Hungarian]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

É. Kiss, K. 1992. Az egyszerű mondat szerkezete [The structure of the simple sentence]. In F. Kiefer (Ed.), *Mondattan* [Syntax], *Structuális magyar nyelvtan* [Structural Hungarian grammar]. Vol. 1 (79–178). Budapest: Akadémiai Kiadó.

É. Kiss, K. 1998. Verbal prefix or postpositions? Postpositional aspectualizers in Hungarian. In I. Kenesei (Ed.), *Approaches to Hungarian*. Vol. 6 (125–148). Szeged: JATE.

É. Kiss, K. 1999. Strategies of complex predicate formation and the Hungarian verbal complex. In I. Kenesei (Ed.), *Crossing boundaries* (91–114). Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.182.07kis

É. Kiss, K. 2002. *The syntax of Hungarian*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511755088

Hendriks, H., & Hickmann, M. 2011. Expressing voluntary motion in a second language: English learners of French. In V. Cook & B. Bassetti (Eds.), *Language and Bilingual Cognition* (315–339). Oxford: Psychology Press.

Jakab, I. 1976. A magyar igekötők állományi vizsgálata [The investigation on the substance of Hungarian preverb]. *Nyelvtudományi Értekezések* [Linguistic disquisitions], 91. Budapest: Akadémiai Kiadó.

Kiefer, F. 1992. Az aspektus és a mondat szerkezete [Aspect and its sentence structure]. In F. Kiefer (Ed.), *Mondattan, Structuális magyar nyelvtan* [Structural Hungarian grammar]. Vol. 1 (797–885). Budapest: Akadémiai Kiadó.

Kiefer, F., & Honti, L. 2003. Verbal 'prefixation' in the Uralic Languages. *Acta Linguistica Hungarica*, 50(1–2), 137–153. Budapest: Akadémiai Kiadó.

Koga, H., Koloskova, Y., Mizuno, M., & Aoki, Y. 2008. Expressions of spatial motion events in English, German, and Russian: With special reference to Japanese. In C. Lamarre, T. Ohori, & T. Morita (Eds.), *Typological studies of the linguistic expression of motion events, Volume II. A contrastive study of Japanese, French, English, Russian, German and Chinese: Norwegian Wood* (13–44). 21st Century COE Program Center for Evolutionary Cognitive Sciences at the University of Tokyo.

Mano, M., Yoshinari, & Eguchi, K. 2018. The effect of the first language on the description of motion events: L2 Japanese learners of English and Hungarian. In I. Walker, Ch. Daniel, M. Nagami, & C. Bourguignon (Eds.), *New perspectives on the development of key competencies in foreign language education*. Boston and Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781501505034-007

Matsumoto, Y. 2014. Common tendencies in the descriptions of manner, path and cause across languages: A closer look at their subcategories. *Langacross 2. (Linguistic diversity and cognition: Implications for first and second language acquisition.)* 21 June 2014.

Matsumoto, Y. 2017. Idoo-hyoogen-no ruikei-ni kansuru kadai [Issues on the typology of motion expressions]. In Y. Matsumoto (Ed.), *Idoo-hyoogen-no ruikeiron* [Typology of motion expressions] (1–24). Tokyo: Kurosio.

Matsumoto, Y. This volume. Neutral and specialized path coding: Toward a new typology of path coding devices and languages.

Matsumoto, Y., Akita, K., & Takahashi, K. 2017. The functional nature of deictic verbs and the coding patterns of Deixis: An experimental study in English, Japanese, and Thai. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages and applications* (95–122). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.05mat

Matsuse, I. This volume. The distinct coding of Deixis and Path in Kathmandu Newar.

Morita, T. This volume. Attraction of attention in perceived motion events weighed against typology and cognitive cost: An experimental study of French.

Sinha, C., & Kuteva, T. 1995. Distributed spatial semantics. *Nordic Journal of Linguistics*, 18, 167–199. https://doi.org/10.1017/S0332586500000159

Slobin, D. I. 1996. From 'thought and language' to 'thinking for speaking'. In J. Gumperz & S. Levinson (Eds.), *Rethinking linguistic relativity* (70–96). Cambridge: Cambridge University Press.

Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and syntactic description. Vol. 3: Grammatical categories and the lexicon* (57–149). Cambridge: Cambridge University Press.

Talmy, L. 1991. Path to realization. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society*, 17 (480–519). Berkeley Linguistics Society, University of California, Berkeley.

Talmy, L. 2000. *Toward a cognitive semantics, Vol. II: Typology and process in concept structuring*. Cambridge, MA: MIT Press.

Yoshinari, Y., Mano, M., Eguchi, K., & Matsumoto, Y. 2016. Daini gengo ni okeru idoo-zisyoo no gengo-ka: Nihongo washa ga motiiru eigo, hangariigo no kenkyuu [Tendency of encoding motion events of L2 learners: The study of English and Hungarian spoken by Japanese native speakers]. *Studies in Language Sciences*, 15, 142–174.

CHAPTER 3

Patterns of path encoding in German[1]

Birgitta Meex
KU Leuven

This chapter proposes a classification of path encoding in motion events in German. It expands the framework that I developed for analyzing motion events in a narrow sense (Meex 2004) to motion events from a broader perspective including deictic, causative, and fictive motion. The chapter aims to deepen our understanding of how the conceptual components at the core of German motion event descriptions, viz. motion, direction, source-path-goal, manner, and cause, correlate and interact with the conceptual categories of deixis, aspect, and case. The analysis reveals seven path coding types, viz. source, intended goal, path of incomplete traversal, path of complete traversal, boundary traversing path, achieved goal, and trajective, depending on the aspectual framing (i.e. summativity, plexity, boundedness, mutativity) of the motion event. Systematic patterns of co-occurrence of these aspectual elements in the motion scene are described and their combination with specific lexical (e.g. deictic expressions) and morphosyntactic (e.g. inflectional case marking on the noun) categories are examined to support the analysis. It will also be shown that apart from a few exceptions, self-motion, caused motion, and fictive motion are compatible with all seven path coding types discussed, showing that German uses event-type neutral path expressions.

Keywords: aspect, case, caused motion, deixis, fictive motion

1.   Introduction

Languages have been shown to vary typologically in their patterns of path encoding in motion events. In Talmy's typology, German (along with other Germanic languages) is classified as a satellite-framed language (Talmy 1991, 2000; Slobin 2004). Satellite-framed languages typically express path in a satellite.[1] Alternatively, Germanic languages are called manner languages, because they show a tendency

---

1.   Throughout this chapter, 'satellite' is used as a cover term for adpositions (i.e. pre- and postpositions), separable verbal particles, and inseparable verbal prefixes.

© 2020 John Benjamins Publishing Company

towards coding manner of motion in the verb root (Wienold 1995: 325). As the following excerpt from a famous German fairy tale demonstrates, German has a rich and diverse set of lexical and morphosyntactic devices (inflectional case marking on the landmark noun, deictic marking by means of spatial deictic expressions, different types of satellites) to express path:

> Rapunzel ward das schönste Kind unter der Sonne. Als es zwölf Jahre alt war, schloss es die Zauberin *in* einen Turm, der in einem Walde lag, und weder Treppe noch Türe hatte, nur ganz oben war ein kleines Fensterchen. Wenn die Zauberin *hinein* wollte, so stellte sie sich *hin* und rief:
>
> > "Rapunzel, Rapunzel,
> > Laß mir dein Haar *herunter*."
>
> Rapunzel hatte lange prächtige Haare, fein wie gesponnen Gold. Wenn sie nun die Stimme der Zauberin vernahm, so band sie ihre Zöpfe los, wickelte sie oben *um* einen Fensterhaken, und dann fielen die Haare zwanzig Ellen tief *herunter*, und die Zauberin, stieg daran *hinauf*.
>
> Rapunzel was the most beautiful child in the world. When she was twelve years old the witch shut her up <u>in</u> a (ACC) tower in the midst of a wood, and it had neither steps nor door, only a small window above. When the witch wished to be let <u>in</u> (into a location other than the deictic center), she would stand <u>below</u> (to a goal other than the deictic center) and would cry,
>
> > "Rapunzel, Rapunzel!
> > Let <u>down</u> your hair (in a direction toward the deictic center)!"
>
> Rapunzel had beautiful long hair that shone like gold. When she heard the voice of the witch she would undo the fastening of the upper window, unbind the plaits of her hair, and let it <u>down</u> (in a direction toward the deictic center) twenty ells below, and the witch would climb <u>up</u> by it (toward a location other than the deictic center).   (http://www.grimmstories.com/de/grimm_maerchen/rapunzel)

The general aim of this chapter is twofold. First, the chapter explores the various possibilities of path encoding in German motion events, and proposes a classification of path that is based on fine-grained distinctions with regard to aspect and viewpoint. More specifically, it aims to shed light on how German constructs the semantics of path in accordance with satellite-framed and language-specific characteristics. Second, it investigates whether different motion event types (self-motion, caused motion, and fictive motion) have the same range of path expressions in German. Put differently, it asks whether German path expressions are neutral to motion event types to the extent that they are compatible with different motion event types.

To answer these questions I analyzed co-occurring aspectual variables and systematic patterns of path encoding in German by looking for intralinguistic regularities and variation. The goal was to identify a set of interacting dimensions that co-occur within a motion event and try to account for them.

Drawing on a collection of examples from the German IDS and DWDS corpora[2] as well as the Internet, the analysis demonstrates how the conceptual components at the core of German motion events, viz. motion, direction, source-path-goal, manner, and cause, correlate and interact with the aspectual information encoded in the motion event. Systematic patterns of co-occurrence of these conceptual elements in the motion scene and their combination with specific lexical and morphosyntactic categories (case marking by means of inflection, deictic marking by means of spatial deictic expressions, the use of different types of satellites) support my analysis and may shed new light on the study of intralinguistic variation patterns.

The chapter is structured as follows. After offering a brief overview of relevant concepts relating to motion events (Section 2) and deictic path information (Section 3), I elaborate on the importance of aspectual categories for the description and understanding of German motion event descriptions (Section 4). Four aspectual distinctive parameters are discussed. They pertain to "adpositional aspect", i.e. the aspect internal to the adpositional phrase or another satellite (Sections 4.1 and 4.2), as well as to the overall situational aspect (Sections 4.3 and 4.4). On the basis of the adpositional aspect and the overall situational aspect, a first classification of path is presented, which incorporates deictic and aspectual meanings (Section 5). This classification is then expanded further to include other types of motion (Section 6), viz. causative motion (Section 6.1) and fictive motion (Section 6.2), to widen the scope on how path is conceptualized and expressed in German. To conclude, I discuss the main findings of this chapter in light of a classification of path encoding in German from a broader perspective (Section 7) and I formulate the conclusions and perspectives for further research (Section 8).

2. Motion, path, and satellites

In his pioneering work, Talmy (1985, 2000) laid the foundation for the analysis of motion events. The semantic key components that are crucial to a proper understanding of motion event descriptions across languages are motion, figure, ground,

---

2. The Institute for the German Language (IDS) in Mannheim offers the largest collection of German written language text corpora worldwide. The Mannheim German Reference Corpus contained over 42 billion words (as of February 2018) and can be used by external researchers as an empirical basis for linguistic research. The Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) maintains the online German language DWDS (Deutsches Wörterbuch der Deutschen Sprache) corpora as one of its long-term Academy Projects. These corpora include 12 billion words of text (as of November 2017) and consist of a core corpus and a supplementary corpus (mainly newspapers). The core corpus provides scholars of German with a resource comparable to the British National Corpus.

path, manner, and cause. Whereas the ground or landmark (LM) functions as a reference point for the trajector's (TR) path or location, the manner and cause specify external events that are related to the motion. Within Talmy's dichotomy of satellite-framed and verb-framed languages, German (along with other Germanic languages) belongs to the satellite-framed type or head-external path-coding languages in Matsumoto's (2018) terminology. In these languages location and path are encoded not by the verb or, more precisely, not by the head of the clause, but by an element associated with the verb. It has been claimed that satellite-framed languages are characterized by their richness in manner-of-motion verbs (Slobin 1996; see also Matsumoto 2003). This is not surprising given their rich manner verb inventory in different semantic domains, including, e.g., verbs expressing manners of sensory perception and manners of caused motion (Snell-Hornby 1983; Wienold 1995; Matsumoto 2003).[3]

Path constitutes the schematic core of the motion event, or the framing event (Talmy 2000-II: 227). It structures the motion event in terms of a salient TR-LM relationship. More specifically, the path is the course followed by the TR with respect to the LM. This general higher-order path schema encompasses a range of concrete manifestations of paths followed. Path expressions highlight different portions or segments of path, viz. the source, the goal, or the stretch of path between source and goal (i.e. the *route path*),[4] often in combination with a deictic element – at least in German. Slobin (2004: 244–245) refers to this as path segmentation, i.e., the path is segmented into several parts. In the case of a segmented path, the LM associated with each segment may be explicitly mentioned in satellites occurring with a single verb.

As noted before, German satellites are generally involved in the expression of path. They are one of the means used to convey path, in addition to case marking and deictic marking (see Section 3). A corpus study by Goschler and Stefanowitsch

---

3.   One of the caveats of Talmy's dichotomous typological classification is that not all languages fit into one type or the other, and languages have been shown not to follow the same lexicalization patterns in a consistent way. As discussed in Croft et al. (2010: 231), Talmy's typology does not apply to "how a language encodes complex events in general, but [is] rather a typology of how particular complex event types are encoded by different *constructions* in a language" (my emphasis). Three types of variation (intertypological, intratypological, and diatopic) are described in Ibarretxe-Antuñano (2017: 20).

4.   I borrowed this term from Dewell (2011). *Route paths* are "defined in relation to a location that is intermediate between the start of the path (cf. "source path" expressions like *aus* or *von* or AB- [i.e. the prefix *ab* ('off', 'down')]) and the end of the path (cf. "goal paths" expressed by locative prepositions like *in* or *auf* or *an* with an accusative object, or particles like EIN-)" (Dewell 2011: 24). The German *route path* satellites are: *durch* ('through'), *über* ('over, across'), *um* ('around'), *entlang* ('along(side)') as well as the less frequently and more marginally used prepositions from Latin origin *via* ('via') and *per* ('per').

on path and motion in spoken German revealed that 92.4% of the motion verbs contained at least one satellite (2010: 107). Lewandowski arrived at a similar conclusion: in his sample of narrative data "only 14.09% of the German motion event descriptions lack a path component" (2018: 53). German has a set of path verbs, but these verbs are not very common neither in terms of type nor in terms of token frequency (Wienold 1995; Goschler and Stefanowitsch 2010).[5] For example, when used as bare path verbs deictic COME/GO verbs (*kommen*, *gehen*) as well as directional RISE/FALL (*steigen*, *fallen*), FOLLOW (*folgen*), LEAVE (*verlassen, sich begeben*), APPROACH ((*sich*) *nähern*) and REACH (*erreichen*, *gelangen*) verbs fall into this category. However, as Lewandowski (2018: 55) convincingly demonstrates with respect to Polish and German, "even path verbs are often accompanied by a satellite that elaborates in more detail the path information lexicalized in the verb root". This is especially true of German, in view of its diversified, heterogeneous and morphosyntactically flexible inventory of satellites (Lewandowski 2018: 60). Wienold (1995: 325) had already argued that German has a "well-established pattern of forming polymorphematic path verbs through derivation with prefixes such as *aus-* 'out, outwards', *ein-* 'into, inwards', etc., affixed to manner verbs". Besides separable particles such as *aus-* and *ein-*, very few inseparable prefixes can be attached to path verbs. Examples include *überholen* ('pass'), *überqueren* ('cross') and *durchqueren* ('cross').[6]

Following Ochsenbauer and Hickmann (2010: 221, 234), I use "satellite" as a cover term for any of the following elements: adpositions, separable verbal particles, and inseparable verbal prefixes (cf. Talmy 2000, 2016; see also fn. 1). These elements constitute a continuum in that they tend to be more loosely or strongly attached to the verb root (Goschler and Stefanowitsch 2010), i.e., they range from adpositions through verbal particles and prefixes. Examples (1)–(3) illustrate the different types of satellites.

(1) Die Hunde sprangen *durch* Reifen und machten noch viele Kunststücke. [1][7]
     'The dogs jumped <u>through</u> tires and performed many tricks.'

(2) Leider kam der kleine Vierbeiner vom Nachbargrundstück immer *durch* zu uns *rüber*.   [2]
     'Unfortunately the small four-legged friend from the neighbors' property used to get <u>through</u> and come <u>over</u> to us (toward the speaker's location).'

---

5. In Goschler and Stefanowitsch's study, only 23 out of 1221 verb tokens had the path of motion coded in the verb root (Goschler and Stefanowitsch 2010: 107).

6. For a more comprehensive overview of path verbs in German, see Verkerk (2014: 254–256).

7. More information on the locations of the attested examples is provided in the Appendix.

(3)   Viele Störche *um*flogen das Nest.   [3]
     'Many storks were flying <u>(in) circles around</u> the nest.'

(1) is an example of a construal with a verb of motion and a prepositional phrase. In (2) the particle verbs *durchkommen* ('get through') and *rüberkommen* ('come over toward the speaker's location') illustrate the use of the path particles *durch* ('through') and *rüber* ('over toward the speaker's location'), respectively.

One of the properties of the German verb system is its ability to add, in a highly regulated way, either of two kinds of prefixes to a base verb: separable prefixes or inseparable prefixes. Separable prefixes (e.g. *an-*, *auf-*, *ein-*, *nach-*) are separated from the base verb and placed at the end of the sentence, unless they are used in the infinitive or in a sub-clause, where the conjugated verb occurs in verb-final position. Separable prefixes (particles) are always phonologically stressed. They are called *particles* because they can also occur as prepositions (e.g. *durch* ('through') in (1)) and adverbs. Contrary to separable prefixes, inseparable prefixes, i.e. genuine *prefixes* (the closed class *be-, ent-, er-, ver-, zer-*), remain attached to the base verb, occurring at its front, and are phonologically unstressed. Interestingly, the path satellites *durch* ('through'), *über* ('over, across, above'), *um* ('around'), and *unter* ('under') have a special status since they can be used in either constructional pattern depending on the semantics of the prefixed verb and the construction in which the verb occurs.

If we return now to Examples (2) and (3), we see that *durchkommen* ('get through') and *rüberkommen* ('come over toward the speaker's location') in (2) are examples of so-called (separable) *particle verbs*, whereas *umfliegen* in (3) is an example of an (inseparable) prefix verb. The prefix *um-* ('around') is tightly attached to the verb *fliegen* and cannot occur separately from it. Path particles such as *durch* ('through') and *über* ('over') in (2) may be separated from their base verbs in a clause and are relatively free with respect to word order. Nevertheless their occurrence has been shown to be statistically associated with certain base verbs (for semantic or intralinguistic reasons) (Goschler and Stefanowitsch 2010).

3.   Deictic viewpoint

In German, deixis is a preferred element of path to be expressed in the sense that German has a special slot to express deixis (and anaphor; see fn. 22) in motion events allowing the joint expression of path and deixis in a compact structure. Deixis concerns the ways in which the TR in a motion event is understood to be moving relative to the speaker's perspective (canonical situation), or sometimes also the hearer's or another salient perspective (non-canonical situation) (cf. Jokinen

2005: 14; Goschler and Stefanowitsch 2010: 109). The TR can be moving either toward the deictic center or away from it.

Let us first explore which deictic expressions exist in German and how deictic path information is conveyed in motion events. Motion events take a different deictic perspective with the choice of a specific verb or adverb signaling place deixis. Examples of deictic verbs are *kommen* ('come'), *gehen* ('go'), and *bringen* ('bring'). Examples of deictic adverbs that typically figure in particle verb constellations (but not in prefix verb constructions) are *hin* ('toward a goal other than the deictic center'), *her* ('toward the deictic center'), *r-* ('toward a goal other than the deictic center or toward the deictic center'), *da* ('there from the deictic center'), and *weg* ('away from the deictic center').[8] These deictic adverbs can occur in combination (e.g. *dahin* ('toward a goal there other than the deictic center') and *hinweg* ('away from the deictic center')). They also combine systematically with path satellites to build complex deictic path satellites (e.g. *runter* ('down here or there from the deictic center'), *hinüber* ('over, across to the other side relative to the deictic center'), and *herum* ('around, about the deictic center')), which represent two kinds of spatial information (deixis and path) in one form. The first slot is reserved for the expression of deictic information, the second one for path information.

Deictic adverbs and deictic path satellites in turn figure prominently in (double) particle verb constellations with manner-of-motion verbs (e.g. *hinfahren* ('drive over to a location away from the deictic center') and *herumwandern* ('wander around, about an implicit deictic center situated in the middle of a space')) and with deictic motion verbs (e.g. *herkommen* ('to come over here toward the deictic center') and *hingehen* ('to go toward a goal there other than the deictic center)), hence resulting in combinations of either motion and deictic (e.g. *hinfahren*, *hingehen*) or motion, path, and deictic information (e.g. *herumwandern*). As discussed in Sections 6.1 and 6.2, other types of motion (viz. causative motion and fictive motion) allow for explicit deictic marking as well (e.g. *sich hinsetzen* (lit. 'set oneself down toward a goal other than the speaker's location', i.e. 'sit down') and *herüberblicken* ('look across toward the deictic center')). In Sections 5.1–5.6, I focus on the conjoint expression of deictic particles, i.e. deictic adverbs including deictic path satellites, with both manner-of-motion verbs and deictic verbs, and deal with them according to the path coding types I discuss in Section 4.5.

The following section reviews the different aspectual criteria by which path expressions (deictic and non-deictic alike) in German can be classified.

---

8. The deictic adverb *r-* is neutral with respect to the directional dimension. It is commonly used in colloquial Northern German.

4.   Aspectual viewpoint

The importance of aspectual structure in language has been emphasized by scholars such as Comrie (1976), Rice (1999), and Talmy (1985, 2000). In previous work (Meex 2004), I demonstrated that polysemy patterns in German *route path* satellites correlate systematically with differences in the aspectual perspective that the speaker adopts on the motion event as a whole.[9] In this section I further elaborate on the constraints that determine the aspectual contour of German motion event descriptions on the basis of which I propose a classification of path encoding in German.

At least four different aspectual distinctions that cross-classify path satellites appear to be at work in the construal of German motion event descriptions: summativity, plexity, boundedness, and mutativity. The first category to be considered is summativity.

4.1   Summativity

Following Leys (1989, 1995), I assume that spatial relations including scenes of motion are based on the opposition between summative and non-summative. Summative relations entail that the locations (at least two) that the TR occupies successively from one point in space to another with respect to the LM are mentally cumulated. Route paths and endpoints of paths (i.e. achieved goals) have a summative quality. Non-summative relations lack any such conception of translocation and cumulation, since the TR-LM relationship is portrayed as existing at every point in conceived time. We find such non-summative relationships with two categories of German adpositions: the locative markers (e.g. dative *vor* 'in front of' and dative *in* 'in, at') and the orientational markers (e.g. *aus* 'out of', *von* 'from', *nach* 'to', and *zu* 'to').

It is important to note that the adpositional aspect (summative vs. non-summative) determines case marking in German adpositions to the extent that non-summative relations are always marked in the dative case (4), whereas summative relations are always marked in the accusative case (5).

(4)   Wer im Bus *neben* mir sitzt, muss laute Musik ertragen!!   [4]
       'The person sitting <u>next to</u> me (DAT) on the bus, has to put up with loud music!!'

---

9.   In Meex (2004: 312–318) I proposed three different, yet interrelated Gestalts of path to account for the uses of the German path adpositions *über* ('over', 'across') and *durch* ('through'): incomplete traversal, complete traversal, and obstacle/boundary traversal. I take up the findings of this earlier survey, using them as a starting point for the analysis in Sections 4.2–4.4.

(5)   Wieso setzt sich niemand *neben* mich im Bus?   [5]
       'Why doesn't anyone ever <u>come and sit next to me</u> (ACC) on the bus?'

In the dative, non-summative construal, a posture verb like *sitzen* ('sit') is used to mark a stable, unchanging situation (4). In the summative construal with the causative equivalent *sich setzen* ('sit down, take a seat') (5), the focus is on the endpoint of the path of motion fulfilling the spatial requirements that the preposition *neben* imposes on its LM. What is essential here is the fact that the TR's initial location of not sitting next to the person is contrasted with its final location of sitting next to the person. Hence, the resulting configuration of *setzen* corresponds to the configuration of *sitzen*.

The closed class of German two-way prepositions *an* ('on, at, to'), *in* ('in, into'), *auf* ('on, onto'), *unter* ('beneath'), *über* ('above, across, over'), *vor* ('before'), *hinter* ('behind'), *neben* ('next to'), and *zwischen* ('between') is characterized by the semantic opposition between the accusative and the dative case. This summative/non-summative distinction can best be explained by means of the notion of *search domain*. The search domain is "the set of all locations in physical space that bear the profiled relation to the landmark configuration in the relational profile" (Hawkins 1985: 168).[10] As Draye has explained:

> The dative landmark prototypically functions as an (inanimate spatial) reference point for trajectors which do not enter the preposition's search domain, which pass through it, or which start their trajectory from within it, i.e., for trajectors which obviously do not alter the landmark significantly or permanently.
>
> (Draye 1996: 206)

If, on the other hand, the trajector penetrates the LM's search domain from outside such that it is permanently confined to the search domain of the landmark, the accusative case is used.

This "rule" not only applies to the two-way prepositions, but is also applicable to the orientational one-way (viz. dative) prepositions of source (*aus* ('out of'), *von* ('from')) and intended goal (*nach* ('to'), *zu* ('to')) as well. The orientational markers *aus* ('out of'), *von* ('from'), *nach* ('to'), and *zu* ('to') are non-summative, because the TR-LM relationship is conceived of as stable and unchanging in that it exists at every point in conceived time. For example, if one is traveling *to* a LM-destination, it is not implied that one will actually reach the destination, i.e. penetrate the LM's search domain. The meaning is purely orientational and does not entail cumulating points to construe a path. This is even true if the TR is leaving the LM's search domain from within, as is the case with *aus* ('out of').

---

10. The notion *search domain* is further explained in Section 4.4.

Two more examples of summative and non-summative relations pertaining to motion events are given in (6) and (7) (Meex 2004: 304–305):

(6) Da spazierte ein alter Mann *auf* dem Bahnsteig […]   [6]
'An old man was walking <u>on</u> the (DAT) station platform.'

(7) Hand in Hand spazierte das Paar *über* den Perron.   [7]
'A couple was walking hand in hand <u>across</u> the (ACC) station platform.'

Example (6) illustrates a non-summative relation whereby the TR's motion is simply located with respect to the station platform, i.e., the station platform is presented as a setting within the dynamic motion event and instantiates a location rather than a path schema. In Example (7) more or less the same referential situation is construed as a summative relation, i.e., the LM is construed as a path (and not merely as a location or setting) for the TR's motion.

4.2   Plexity

As we have seen in Section 4.1, the categorization of a relation as a route path depends on the concept of summativity. However, summativity alone does not suffice to capture the exact nature of a route path. In order to distinguish route paths (7) from achieved goals (5), both of which have been characterized as summative relations, reference to a second aspectual notion is needed: that of plexity. Plexity refers to "a quantity's state of articulation into equivalent elements" (Talmy 2000-I: 48). The category is made up of the two member notions: uniplexity (in the case of one such element) and multiplexity (if there is more than one element). "Multiplexity" then refers to the fact that route paths (contrary to achieved goals) by definition have a spatial extension consisting of more than one equivalent element. In this view, paths are imaginary constructs and their line-like dimension can only emerge through the speaker's mental cumulation of the single contiguous locations that the figure occupies from one point in space to another.

In his attempt to capture general patterns of meaning extension that characterize the polysemization process of English prepositions, Taylor (1993) distinguishes two types of prepositions depending on how the TR is construed with respect to the LM. More specifically, he classifies prepositions into simplex prepositions (*on*, *under*, *at*) and multiplex prepositions (*around*, *along*, *through*) on the basis of the cross-categorial distinction between uniplexity and multiplexity. According to Taylor the place of the TR of a simplex or uniplex preposition "is construed as an internally unstructured point" (1993: 155) (i.e. one element), as illustrated in Example (8). This is independent of whether the TR itself is construed as a spatially extended simplex entity (*the book on the table*) or as a multiplex entity (*the books under the table*). A multiplex path, on the other hand, entails a multiplex place (more

elements), that is, the TR occupies a multiplicity of points, in other words an adjacent series of points, either successively (*durch* in Example (9a)) or simultaneously (*über* in Example (9b)). German path satellites like *über* and *durch* are multiplex by definition. They highlight the intermediate portion of a path, which spatially extends between source and goal and that is often made explicit by the LM. Their TRs are moving entities that are engaged in summative and hence accusative-marked relations, i.e. they move from one point in space to another occupying multiplex points, which are then mentally cumulated to form a path.

(8) Wie schnell fahrt ihr *auf* der Autobahn?   [8]
      'How fast do you drive <u>on</u> the (DAT) Highway?'

(9) a. Seit 20 Jahren reisen Passagiere mit dem ICE *durchs* Land.   [9]
        'For 20 years now passengers have been traveling <u>through</u> the (ACC) country by Intercity Express train.'
   b. die *über* das Gesicht kullernden Schweißperlen   [10]
        'the beads of sweat rolling <u>over</u> her (ACC) face'

4.3   Boundedness

The third aspectual distinction considered here, relates to the internal constituency of the motion event, i.e. the degree to which an event is aspectually bounded or unbounded. Croft's (2012) groundbreaking analysis of aspectual types/construals and their interrelationships is embedded in his two-dimensional geometric model, according to which events are aspectually represented in two dimensions. Croft distinguishes between time (t), which he sees as a continuous dimension, and the qualitative state dimension (q), i.e. the set of qualitative states of the unfolding event, to "describ[e] HOW EVENTS ARE CONSTRUED AS EVOLVING OVER TIME" (Croft 2012: 53, original emphasis). More specifically, the qualitative states of Croft's q-dimension reflect the progress of the event and the alternative ways in which the event can be construed depending on the specific context in which it occurs, e.g. as a directed or undirected activity. His two-dimensional analysis allows Croft (2012) to distinguish two types of boundedness: temporal boundedness (T-boundedness) and qualitative boundedness (Q-boundedness).

    The temporal dimension of the motion event determines whether or not the event is represented as temporally complete, i.e. as coming to an end, and hence whether or not it is compatible with temporal *in*-adverbials (the so-called container adverbials, e.g. *I walked through the tunnel <u>in 10 minutes</u>*) or *for*-adverbials (e.g. *I walked along the shore <u>for 10 minutes</u>*), respectively. Whereas T-boundedness or completeness is required for predicates that contain temporal phrases of the type "*in X TimeUnit*" (Croft 2012: 65), an interpretation of T-unboundedness is induced by predicates with temporal *for*-adverbials.

In view of the envisaged classification of path in German, the focus of this chapter is on the (construal of the) qualitative aspectual dimension. Holistic or path incremental themes in the sense of Croft (2012: 75) are characterized by incremental progress or the TR's change of location along a path over the time course of the event. Croft states that "the boundedness of the predicate is derivable from the bounde[d]ness of the path" (2012: 75). He further states that "paths that do not have a specified endpoint will be construed as activities (directed or undirected)" (Croft 2012: 75). Likewise, the qualitative states on the q-dimension are the theme's successive positions from one point to another along a scalar property on the spatial or metaphorical path (translational motion). Directed activities involve a continuous directed change along the qualitative dimension without a transition to a result state (the motion is directed to a specific location that serves as the destination), whereas undirected activities are made up of a succession of cyclic achievements without incremental progress toward a result state (Croft 2012: 60–61, 300).

The qualitative aspectual dimension of the motion event can be further refined by examining the construal of the LM and its interaction with the particular semantics of both the verb of motion and the satellite. Following Talmy (2000-I: 54–55), I assume that it is the ground or LM, i.e. the entity with respect to which the path of motion is executed, that is aspectually affected by the path of motion and that is conceptualized as either being bounded or unbounded. In a bounded construal the LM's physical or conceptual boundary coincides with the path's spatial boundaries, i.e. with its beginning and endpoints (cf. Talmy's *boundary coincidence*). In the unbounded state construal "there is no such coincidence and, in fact, the reference object extends beyond the path's end points" (Talmy 2000-I: 55). As such, a bounded event is conceptualized as a single, complete unit or whole that is looked at from an *external viewpoint* (Dewell 1997: 24). In other words, the point of view adopted by the speaker in construing the motion scene is outside the LM, allowing the speaker to focus the attention on the LM's boundaries. In an unbounded construal the speaker's focus of attention is on the LM's extension beyond the path's boundaries. So there is no such boundary coincidence and the ongoing event is looked at from the inside, that is from an *internal viewpoint*, i.e. *without* reference to "a beginning or end point outside [which] is beyond the scope of the scene anyway" (Dewell 1997: 25).[11] The different possibilities for this aspectual encoding of motion events in German are further explored by means of the examples in (10)–(12).

(10) a.   Warum nur einen Tag *über* den Weihnachtsmarkt bummeln?   [11]
            'Why would you stroll only for one day <u>about</u> the (ACC) Christmas fair?'

---

11. This is in line with Comrie's (1976: 24) general characterization of imperfective aspect, "namely explicit reference to the internal temporal structure of a situation, viewing a situation from within".

b. Nachdenklich schritt ich den Teich *entlang*. [12]
   'Pensively, I walked <u>along</u> the (ACC) pond.'

c. Viele Störche *um*flogen das Nest.[12] [13]
   'Many storks were flying <u>(in) circles around</u> the nest.'

In (10) the *route path* expressions *über* ('over, across, about'), *entlang* ('along'), and *um* ('around') profile summative multiplex paths that are part of an unbounded motion event. The event is construed as an ongoing journey through both space (Q-unboundedness) and time (T-unboundedness). It is obvious from Examples (10a, b) that the LM (the Christmas fair and the pond, respectively) is conceptualized as an unbounded mass, which extends beyond the path's beginning and endpoints (Q-unbounded). Interestingly, even when the LM is bounded, as with the nest in (10c), the motion event construal can still be unbounded. Elsewhere (Meex 2004) I labeled such types of path codings as relations of *incomplete traversal*. Throughout this chapter, I refer to them in the same way.

By contrast, the sentence in (11a) is an example of aspectually T-boundedness and illustrates a relationship of *complete traversal*. The runner's path that is carried out vis-à-vis the LM (the lake) constitutes an outer boundary fully, circularly enclosing the lake. T-boundedness is suggested by the adverbial temporal phrases *einmal* ('once') and *zweimal* ('twice'). By means of these phrases the relation of incomplete traversal defined along the *q*-dimension is recategorized/construed as a complete one, in which the boundaries of the lake and the running path coincide.[13] Similarly, the implicit LM (i.e. the abstract distance or range that the fire has overcome between the car and the house) of the particle verb with the satellite *über* in (11b) is qualitatively/spatially bounded at both ends, i.e. the car and the house. The event's temporal dimension, although unspecified, is most likely to be interpreted as punctual, i.e. as profiling the nonincremental transition of the fire from the car to the house, hence marking the event as *t*-bounded.

(11) a. Als jüngerer Mensch joggte ich fast täglich *einmal um* den See, und wenn die Kondition ausreichte, auch *zweimal*. [14]
   'As a young man, I used to run <u>around</u> the (ACC) lake <u>once</u> almost daily, and when my condition was good enough, <u>twice</u>.'

b. Autobrand greift auf Wohnhaus *über*. [15]
   'A car fire spreads (lit. spread <u>over</u>) to the house.'

---

12. Repeated from Section 2, Example (3).

13. If used with cases like the ones exemplified in (10), the adverbial phrases *einmal* ('once') and *zweimal* ('twice'), would force a T-bounded reading and turn the unbounded motion event into a bounded one. This would, however, be rather unlikely, since they don't make much sense when combined with verbs like strolling and striding.

(12)   a.   Wir fahren *bis ans* Nordkap!   [16]
            'We drive <u>up to</u> North Cape (ACC)!'
       b.   Wer jetzt noch schnell richtig weit weg will, sollte […] *nach* Tegel *zum*
            Air-Berlin-Schalter hetzen.   [17]
            'If you still want to travel off quickly and really far away, then you should
            hurry <u>to</u> Tegel, <u>to</u> the Air-Berlin desk (DAT).'

In other cases, such as (12), the paths are spatially bounded only at one end, i.e. by virtue of their initial or terminating points. In (12a) the interpretation in terms of *q*-boundedness is enforced by the use of *bis*. When expressions of source and goal are used together they describe a full path from source to intended or achieved goal. The directional markers *nach* and *zu* in (12b) figure in a motional situation that is also depicted as a bounded one (Q-boundedness). They specify the TR's orientation in the direction of the LM (the airport in Tegel), that is construed as a goal, i.e. as an intended endpoint for the path of motion (cf. Evans and Tyler 2004). However, it is not entailed that the TR arrives at the LM, i.e., that the goal is actually reached, so the motional situation is depicted as a bounded but not a "mutative" one, i.e. as one that involves *boundary traversal*. This brings us to the final aspectual notion to be examined, one that is strongly related to boundedness: mutativity.

4.4   Mutativity

"Mutativity" (boundary traversal) pertains to the fact that the motion event brings about a specific kind of change in the TR-LM relationship. Slobin (2004) states that "with regard to motion events, changes of state are boundary-crossing events: enter, exit, cross" (Slobin 2004: 226). When a motion event is viewed as mutative, it is understood as entailing a change of state such that the TR enters (achieved goal, boundary traversal) or exits (source) the LM's *search domain* by crossing its boundary. As stated earlier, the search domain is "the set of all locations in physical space that bear the profiled relation to the landmark configuration in the relational profile" (Hawkins 1985: 168). If the TR exits the search domain, as in *aus dem Fenster* ('out of the (DAT) window') (13a), the relation is conventionally construed as a non-summative one and hence marked with the dative. The summative path markers *durch* ('through') and *in* ('in'), however, profile their TR's penetration into the LM's search domain and take the accusative (13b, c). The prefixed verb *über-steigen* ('climb across') in (13d) behaves in a similar way, but here the LM (the gate) is expressed as the direct object. Note that with the so-called two-way prepositions (e.g. *in* ('in') in (13c)) the resulting location (e.g. being in the river after having fallen down into it) corresponds to the locative dative construal with the same preposition.

(13) a. Frau springt aus Angst vor dem Ehemann *aus* dem Fenster.   [18]
         'Woman jumps <u>out of</u> the (DAT) window out of fear of her husband.'
     b. Frau springt aus Angst vor dem Ehemann *durch* das Fenster.   [19]
         'Woman jumps <u>through</u> the (ACC) window out of fear of her husband.'
     c. 80-jährige Radfahrerin stürzt *in* den Fluss.   [20]
         '80-year-old female cyclist falls <u>into</u> the (ACC) river.'
     d. Bitte den Zaun nicht *über*steigen!   [21]
         'Please don't cross (lit. climb <u>across</u>) the (ACC) gate!'

Finally, Example (14) illustrates the opposite case, i.e. immutativity. Immutativity signals that the TR does not undergo any change of state with respect to the LM. The path is confined throughout its course within the LM's search domain. Construals with orientational markers such as *von* ('from'), *nach* ('to') (14), and *zu* ('to'), provide nice illustrations of such non-boundary-crossing events, since there is a priori no certainty as to whether the goal will be reached.[14] In addition, the previously (cf. Section 4.3) discussed path coding types, incomplete traversal and complete traversal, present uses of non-boundary-crossing events.

(14) Wir reisen *von* Kiel *nach* Berlin.   [22]
      'We travel <u>from</u> Kiel <u>to</u> Berlin.'

From a typological point of view, the notion of boundary crossing is interesting in that languages show different patterns with boundary-crossing events (see e.g. Ochsenbauer and Hickmann 2010). While some languages like Japanese lack boundary-crossing adpositions (Matsumoto, this volume),[15] other languages like German make use of the concept of boundary-crossing, which plays a crucial role in a variety of grammatical categories ranging from adpositional semantics to the choice of the auxiliary verb in the perfect tense (*haben* ('have') is used with immutative verbs, *sein* ('be') with mutative verbs).[16]

---

14. By contrast, as indicated in Section 3.1, the accusative prepositions *an* ('on, at, to'), *in* ('in, into'), *auf* ('on, onto'), *unter* ('beneath'), *über* ('above, across, over'), *vor* ('before'), *hinter* ('behind'), *neben* ('next to'), and *zwischen* ('between') indicating the achievement of a goal imply that the TR crosses the boundaries of the LM's search domain from outside such that it is permanently confined to the search domain of the LM.

15. However, this only pertains to the form class of case markers. Japanese verbs can combine with "local nouns" (expressing a Region in relation to the LM) such as *naka* ('inside') and *soto* ('outside') to indeed express "boundary crossing" (Matsumoto, this volume). I would like to thank the anonymous reviewer for pointing this out to me.

16. The aspectual distinction of mutativity-immutativity is of further importance for lexicalization patterns and processes of word formation in German, and determines the choice of syntactic constructions involving the passive voice and the past participle.

4.5   A classification of path and aspectual properties

Table 1 summarizes the results of the analysis so far and proposes a classification for path encoding in German based on motion "in a narrow sense", i.e. self-motion. The first row consists of the four aspectual parameters discussed above: summativity (Section 4.1), multiplexity (Section 4.2), boundedness (Section 4.3), and mutativity (Section 4.4). These distinctive binary parameters are used to accommodate for observed patterns of intralinguistic variation, viz. the six different coding types that path can be assigned to in German: source, intended goal, path of incomplete traversal, path of complete traversal, boundary traversing path, and achieved goal (i.e. endpoint of path).[17] They are listed in the left-most column of Table 1. Each path coding type is defined by means of one or more aspectual parameters and is expressed by at least one satellite. Note that the two-way prepositions governing the dative case are not mentioned here, because their LMs do not specify the path of motion but instead specify the locative setting within which the movement takes place (cf. Example (8)).

Whereas *nach* ('to') and *zu* ('to') share exactly the same features, but nevertheless cannot be used interchangeably (see fn. 19), the opposite is true of *entlang* ('along(side)'), *durch* ('through'), *um* ('around'), and *über* ('over, across'): the same morpheme with the same case marking of the LM occurs in 2 (*entlang*), 3 (*durch*, *um*), or 4 (*über*) different path coding types, demonstrating their high degree of lexical ambiguity. In line with Croft's two-dimensional model, it can be assumed that the satellites in question have meanings that allow them to be construed in a number of ways so as to fit a range of different path coding types, depending on the linguistic (grammatical and discourse) context in which they are embedded.[18] Given their "construal and aspectual potential", we may assume that they are neutral or general with respect to the path coding type and that the specific aspectual meaning is derived from the context (Croft 2012: 83).

In the next sections, I discuss each type of path coding that is listed in Table 1. For each type, I focus on well-established deictic patterns and discuss them against the background of the aspectual parameters and the overall classification of non-deictic paths that I made on the basis of the four binary parameters in Section 4.

---

17.   This classification is further refined in Section 5.6 to include an additional type of path coding, viz. the trajective.

18.   A comparable high degree of ambiguity is attested in the various aspectual types of Thai verbs of motion, whose "disambiguation depends on the discourse context" (Takahashi, this volume).

Table 1. Path encoding in German motion events with verbs of self-propelled motion

Path coding type	Satellite	Aspectual parameter			
		Summative	Multiplex	Bounded	Mutative
Source	*von* (DAT) ('from')/*ab-* ('off')	–	–	+	–
	aus (DAT) ('out of')	–	–	+	+
Intended goal	*nach* (DAT)/ *nach-* ('to')	–	–	+	–
	zu (DAT)/*zu-* ('to')[19]	–	–	+	–
Path of incomplete traversal	*durch* (ACC)/ *durch-* ('through')	+	+	–	–
	über (ACC)/ *über-* ('over, across')	+	+	–	–
	um (ACC)/*um-* ('around')	+	+	–	–
	entlang (ACC, GEN, DAT)/ *entlang-* ('along(side)')	+	+	–	–
Path of complete traversal	*durch* (ACC)/ *durch-* ('through')	+	+	+	–
	über (ACC)/ *über-* ('over, across')	+	+	+	–
	um (ACC)/*um-* ('around')	+	+	+	–
	entlang (ACC, GEN, DAT)/ *entlang-* ('along(side)')	+	+	+	–
Boundary traversing path	*durch* (ACC)/ *durch-*, ('through')	+	+	+	+
	über (ACC)/ *über-* ('over, across')	+	+	+	+
	um (ACC)/*um-* ('around')	+	+	+	+
Achieved goal	*an* (ACC)/*an-* ('on, at, to')	+	–	+	+
	auf (ACC)/*auf-* ('on, onto')	+	–	+	+
	hinter (ACC)/ *hinter-* ('behind')	+	–	+	+
	in (ACC)/*ein-* ('in, into')	+	–	+	+
	neben (ACC) ('next to')	+	–	+	+
	über (ACC)/ *über-* ('above, across, over')	+	–	+	+
	unter (ACC) /*unter-* ('beneath')	+	–	+	+
	vor (ACC)/*vor-* ('before')	+	–	+	+
	zwischen (ACC) ('between')	+	–	+	+

---

19. The distribution between *nach* and *zu* is as follows: whereas the use of *nach* is restricted to geographic place names and directional reference points that have no article with them, *zu* is used in most other cases and is always used when the LM refers to a person, an institution, or a company. *Zu* is also commonly used with nouns that denote a place or a social event where people get together or meet (e.g. a meeting, a party, the church, a funeral, work, or school).

5.   Path classification and deixis

This section provides a classification of the German deictic expressions that are semantically compatible with the six path coding types that were discussed in Section 4 (cf. Table 1). The purpose of this section is to show that these deictic path expressions match their non-deictic path counterparts in terms of their ability to be construed in the defined range of aspectual path coding types. Apart from the path coding types examined so far, this section includes an additional path coding type, termed *trajective*, which lacks a non-deictic counterpart. For each path coding type, the corresponding deictic path expressions are explored in Sections 5.1–5.6 and are summarized in Section 5.7.

5.1   Source and intended goal: Orientational paths

As can be seen from Table 1, the path coding types of source and intended goal behave pretty much in the same way. They are characterized by non-summativity and uniplexity and they are part of a bounded, non-mutative motion event. The only exception is *aus*, which profiles a relation of boundary-crossing and occurs with mutative motion events.

Dewell (2011: 41) states that "*[h]in-* and *her-* intrinsically direct focal attention to a particular part of a path, the goal and the source respectively". Whereas *hin* ('toward a goal other than the deictic center') designates that the TR is moving away from the deictic center in the direction of a particular place that is construed as an intended goal, *her* ('toward the deictic center') (just like *kommen* 'to come') marks the opposite direction denoting the movement from an implicit or explicit source toward the deictic center.[20] Interestingly, if we take into account the speaker's (or another observer's) point of view, the speaker (or observer) would be at the source of the path of motion in the case of the semantically unmarked *hin*, versus at the goal of the path of motion in the case of the more marked *her* (Delancey 1981: 635–636; Jokinen 2005: 14). The latter case exemplifies the *terminal viewpoint* construal (Delancey 1981: 635–636): the speaker's or observer's eye is at the terminal point of the path of motion.

Besides *hin-* and *her-* the deictic particles (*hin*)*weg-* ('away from the deictic center') and *entgegen-* ('toward the deictic center') can be used to express the orientational nature of the path. Compared to *hin-* and *entgegen-*, which are positively

---

20. As stated above, the deictic center does not necessarily equal the speaker's position. Andative deixis may also involve the TR's motion from nonspeaker position to nonspeaker position.

valued since they indicate a directional goal, (*hin*)*weg*- marks an unspecified direction in terms of a *negative destination* leading *away from* a source (Quirk et al. 1985: 674; Schubert 2009: 293).

(15) and (16) are examples of deictic expressions involving the source and goal of motion.

(15) a. Weiß man, wo das Virus *her*kommt?   [23]
          'Do we know where the virus comes <u>from</u> (<u>toward the deictic center</u>)?'
      b. Ich würde auf jeden Fall noch mal *hin*fliegen!   [24]
          'I would definitely fly <u>there</u> (<u>to a location away from the deictic center</u>) again!'
      c. Vier Angehörige sprangen dem Teenager sofort *hinterher*.   [25]
          'Four relatives immediately jumped, <u>following</u> the teenager (lit. jumped after the teenager in the direction of the teenager).'

(16) a. Geh *weg*, du bist zu hässlich!   [26]
          'Go <u>away from here</u>, you are too ugly!'
      b. Die ersten Seevögel fliegen uns *entgegen*.   [27]
          'The first seabirds fly <u>toward</u> us (DAT).'

<u>*Herkommt*</u> in (15a) illustrates the common combination of the deictic and motion components. The associated lexical elements *her* and *kommen* fit together very well to the extent that they reinforce each other (Goschler and Stefanowitsch 2010: 109), since both express the (marked) direction from the (implicit) source toward the deictic center (in this case the speaker) from which the motion event is perspectivized. <u>*Hinfliegen*</u> ('fly to a place away from the deictic center') in (15b) illustrates the opposite direction of the path of motion in that it specifies the motion toward an intended goal leading away from the speaker's location. Unlike the examples in (15a–b), *hinterherspringen* ('jump after someone or something, following him, her or it') in (15c) perspectivizes the event not from the speaker's point of view, but from that of the *teenager*. In other words, it is the teenager (the intended goal) that constitutes the deictic center and gives rise to the use of *her*.

In (16a) the deictic *weg*- ('away from the deictic center') parallels the deictic *hin*- in that it highlights a path extending in the direction away from the speaker. However, unlike *hin*- (and *entgegen*- ('toward the deictic center') (16b) for that matter), the motion is not bounded by virtue of its direction toward an intended goal. Rather, *weg*- signals that the path starts near the deictic center and then gradually moves away from it in an unspecified direction (Schubert 2009: 292).

5.2   Path of incomplete traversal

Paths of incomplete traversal are summative and multiplex (see Table 1). They are part of an unbounded and immutative motion event. The non-deictic satellites expressing this relation of path are *durch* (ACC)/*durch-* ('through'), *über* (ACC)/ *über-* ('over, across'), and *um* (ACC)/*um-* ('around').

Consonant with the path coding type of incomplete traversal are the deictic satellites *herum-* ('around, about the deictic center') and *umher-* ('around, about the deictic center'), *(da)hin-* ('along one's way in a direction away from the deictic center'), *(da)her* ('along one's way toward the deictic center'), as well as the phrase *hin und her* ('back and forth away from and toward the deictic center') with an iterative meaning. They tend to combine with manner-of-motion verbs (e.g. *zappeln* ('wriggle'), *schleichen* ('crawl', 'creep'), *laufen* ('run')) and are restricted to appearing in unbounded and immutative motion events. This is illustrated in (17):

(17) a. Da wird *herum*gezappelt, nervös in den Unterlagen genestelt.   [28]
          'There is wriggling (lit. <u>about</u> the deictic center') and nervous fumbling through the documents.'
      b. Mein Fahrlehrer hatte, als ich mit dem Schulwagen *dahin*schlich, geringschätzig ausgestoßen.   [29]
          'As I crawled <u>along</u> (lit. in a direction away from the deictic center) with the school car, my driving instructor spoke disparagingly of me.'
      c. Costa Concordia-Kapitän Schettino lief in Panik *hin und her*.   [30]
          'Costa Concordia captain Schettino was panicking and <u>pacing around</u> (lit. <u>away from and toward the deictic center)</u>'.

The paths in (17) have no endpoint or goal mentioned whatsoever, whether achieved or intended. Just like *umher-* ('around, about the deictic center'), *herum-* ('around, about the deictic center') expresses aimless motion and indicates the TR's circular movement in the vicinity of and around the deictic center (17a). The aimlessness is also found in the meaning of the verb *zappeln* ('wriggle'). The deictic satellite *dahin-* ('along one's way in a direction away from the deictic center') focuses on continuous movement in a particular direction, indicating that the TR is just moving on along its way (17b). Finally, the idiomatic phrase *hin und her* ('back and forth away from and toward the deictic center') illustrates iterative motion within one motion event (17c). It represents a weakened form of deixis, since it lacks concrete reference to the deictic center.

5.3   Path of complete traversal

As is apparent from Table 1, the same satellites are used to express paths of complete and incomplete traversal, both of which are summative and multiplex. Paths of complete traversal differ from paths of incomplete traversal with respect to the aspectual dimension of boundedness: the path coding type of complete traversal is embedded in a bounded (and immutative) motion event. Moreover, other deictic satellites are involved.

In such bounded event construals the path satellites *hin-* ('to a goal other than the deictic center'), *her-* ('to the deictic center'), *hindurch-* ('all the way through toward a goal other than the deictic center'), *hinüber-* ('all the way over toward a goal other than the deictic center'), *herüber-* ('all the way over toward the deictic center'), and *rüber-* ('all the way over toward a goal other than the deictic center or toward the deictic center') are frequently used to express deictic path information.[21] As can be seen from the examples in (18), these satellites emphasize the traversal of the full stretch of path between the source and the intended or achieved goal and therefore evoke a sense of completeness and *boundary coincidence* in the sense of Talmy (2000-I: 54–55) (for a detailed discussion see Section 4.3). The examples in (18) are therefore compatible with bounded temporal expressions (the *in* type), and not with unbounded ones (the *for* type) without changing the meaning. Thus the sentence in (18a) with an *in*-phrase *Lass uns in wenigen Minuten* ('in a few minutes') *rübergehen und gucken, was los ist* does mean something different from the same sentence with a *for*-phrase *Lass uns für wenige Minuten* ('for a few minutes') *rübergehen und gucken, was los ist*. This last sentence implies that the TR stays for some time at the destination at the end of the path; in other words, the temporal phrase does not refer to the time it takes to traverse the path itself.

(18) a.   Lass uns *rüber*gehen und gucken, was los ist.   [31]
            'Let us go <u>over there</u> (<u>all the way across to a location other than the deictic center</u>) and see what is going on.'

---

21. Dewell (2011: 38–39) points out the fact that there are "two gaps in the system", **hinum* ('all the way round toward a goal other than the deictic center'), and **herdurch* ('all the way through toward the deictic center'), that can be explained by semantic motivation. First, *um* does not occur together with *hin-* ('toward a goal other than the deictic center'), since it is lacking a directional goal for the profiled path. Second, in a terminal viewpoint construal the use of *durch* ('through') would mean the same as and hence result in the use of the source expressions *heraus* ('out of toward the deictic center') or *hervor* ('forth from toward the deictic center') instead of **herdurch* ('all the way through toward the deictic center').

b.   […] und so ritten sie *durch* den Wald *hin* zu der alten Stadt Vordingborg
      […].   [32]
      '[…] and so they rode <u>through</u> the forest toward the old town of Vordingborg
      […].'

c.   Dieser Radfahrer schlängelt sich etwas zu knapp *durch* die Autos *hindurch*.
                                                                                [33]
      'This cyclist winds his way <u>through</u> the (ACC) cars slightly too sharply.'

d.   Demonstranten […] rennen in die Seitenstraßen oder *zwischen* den Autos
      hindurch […].   [34]
      'Demonstrators run into the side lines or <u>in between (DAT) and past</u> the
      cars.'

The deictic path component *hin* ('to a goal other than the deictic center') in (18b)
combines with *durch* ('through') to put special emphasis on the directive nature of
the path that extends all the way through the forest in the direction of the old town.
The direction of the path is such that it corresponds to the iconic viewpoint scenario,
according to which the linear ordering of the satellites in the sentence reflects the
temporal ordering of the stages of the motion event (cf. Delancey 1981: 632–633).
The same holds for (18a, c, and d). The ground of *rübergehen* in (18a) is implicit.
It refers to an abstract stretch of path or distance between two points. The deictic
center is located at the beginning of the path, and the path is conceptualized as a
route leading away from the deictic center to the end of the path.

If we compare Examples (18c) and (18d), we see that the same deictic path
particle *hindurch* can occur not only with summative, accusative-marked relations
of path defining the route path that the TR takes with respect to the LM (*durch* in
(18c)); it can also combine with non-summative and hence dative-marked relations
defining a locational setting for the path of motion (*zwischen* in (18d)). In either
case, *hindurch* imposes a perfective reading on the motion scene that is construed
as bounded. Unlike *hindurch*, *hin* ('to a goal other than the deictic center') does
not have this semantic restriction, i.e., with *hin* the motion event does not have
to be bounded. It is also fully compatible with the (non-summative) orientational
paths described in Section 5.1, as well as with the summative paths described in 5.2
and in the current section, viz. path of incomplete traversal and path of complete
traversal, respectively. We may therefore conclude that *hin* seems to be unspecified
with respect to path coding type, and that path coding types are determined by
other co-occurring elements.

5.4   Boundary traversing path

The boundary traversing path differs from the path of complete traversal in that it marks a mutative relationship in a bounded motion event. Again, the same range of (non-deictic) route path satellites is used, with the exception of *entlang/entlang-* ('along(side)'). As far as deixis is concerned, the deictic path particles *hindurch-* ('all the way through to a goal other than the deictic center'), *hinüber-* ('all the way across to a goal other than the deictic center'), *über … hinweg-* ('across and away from the deictic center'), and *über … hinaus-* ('out of and across toward a goal other than the deictic center') serve as mutative markers, i.e., they express boundary traversal. In each case the prepositional element (viz. *durch* ('through'), *über* ('across'), and *aus* ('out of')) is relevant for the mutative component.

(19) a. Der Ball fliegt *über* ihn *hinweg*.   [35]
         'The ball flies <u>over and beyond</u> him (ACC).'
      b. Das Kind war entweder *über* den Zaun geklettert oder unter einem Tor
         *hindurch*gekrochen.   [36]
         'The child had either climbed <u>across</u> the (ACC) fence or it had crawled
         <u>under and across</u> the gate (DAT).'

From the examples in (19) it is obvious that the LM shows a substantial conceptual reduction of its dimensions from a three- or two-dimensional entity functioning as a medium, channel, or surface that is facilitating motion (cf. path of incomplete traversal and path of complete traversal) to a two- or one-dimensional entity, respectively (boundary traversing path). The LM does not show any significant extension in the direction of the traversed path, because the LM and the path are perpendicular to each other. The LM is conceptualized in terms of force dynamics as an obstacle or a barrier that obstructs motion as opposed to facilitating it, or as a boundary (Meex 2004: 317–318).[22]

---

22. It is interesting in this respect to contrast the two basic ways to produce reference: deixis and anaphor. Whereas *hinüber* ('all the way across to a goal other than the deictic center') in (a) expresses a relation of boundary crossing (boundary traversing path), *darüber* ('over that') in (b) is associated with a path relation of incomplete traversal. Alternatively, *darüber* ('over that') can also indicate a relation of boundary crossing (boundary traversing path), when it is used as a phoric extension of *hinüber* ('all the way across to a goal other than the deictic center') or *herüber* ('all the way across to the deictic center'): da + *hin/her/r* + *über* (c). It can then be replaced with *hinüber*:

(a) Viele wollten die Ballspielfläche vom übrigen Hof trennen, weil der Ball oft *hinüber*flog.
                                                                                          [37]
     'Many people wanted to separate the ball playing ground from the rest of the courtyard, because the ball frequently flew <u>across</u>.'

5.5   Achieved goal: Destination path

The path coding type described in this section resembles the one in Section 5.4 through the notions of boundary crossing and change of state. As outlined in Section 4.4, mutativity is identified as a feature of German motion events entailing a state of change such that the TR enters or leaves the LM's search domain by crossing its boundary. With regard to destination paths marking the endpoint of the path as the goal to be reached, mutativity implies that the TR arrives at the LM-goal, i.e., it crosses the boundary to the LM's search domain and hence enters into a new state e.g. *at*, *on*, or *in* the LM object. The uniplex satellites *an* (ACC)/*an-* ('on, at, to'), *auf* (ACC)/*auf-* ('on, onto'), *hinter* (ACC)/*hinter-* ('behind'), *in* (ACC)/*ein-* ('in, into'), *neben* (ACC) ('next to'), *über* (ACC)/*über-* ('above, across, over'), *unter* (ACC)/*unter-* ('beneath'), *vor* (ACC)/*vor-* ('before'), and *zwischen* (ACC) ('between'), which all mark summative relations, fit into this path coding type. The same goes for their corresponding deictic counterparts, which I describe as follows.

Deictic path satellites such as *hinan-* ('at, to, onto a location other than the deictic center'), *heran-* ('at, to, onto the deictic center'), *hinauf-* ('onto to a location other than the deictic center'), *herauf-* ('onto the deictic center'), *hinein-* ('into a location other than the deictic center'), *herein* ('into the deictic center'), and *an/auf/in … hinaus-* ('out/off at, to, onto, into a location other than the deictic center') mark the direction relative to the deictic center to an achieved goal at the end of a summative path (20). They can be used either with an implicit LM, as in (20a–b), or in combination with an adposition and its explicit LM marked in the accusative case (20c–d). (20c) is an example of a so-called *echoform*, where the same form (the preposition *an*) is repeated in the deictic verb particle *heran-*. The complex deictic path satellite *auf … hinaus-* in (20d) illustrates the special case of radial motion. Talmy points out that "the Figure's path is conceptualized as radially traversing concentric circles" in relation to a similar sentence in English (Talmy 2000-I: 217).

(b)   Viele wollten die Ballspielfläche vom übrigen Hof trennen, weil der Ball oft *darüber*flog.   [38]

'Many people wanted to separate the ball playing ground from the rest of the courtyard, because the ball frequently flew <u>over it</u>.'

(c)   [Die Kinder] standen plötzlich vor einem kleinen Bach, der so breit war, daß sie nicht *darüber*springen konnten.   [39]

'All of a sudden the children were standing in front of a small creek that was so wide that they couldn't jump <u>across</u>.'

(20) a. Kinder bis 6 Jahre dürfen gratis *hinein*.   [40]
          'Children up to 6 years are allowed to <u>enter</u> (lit. get <u>into</u> <u>a location other</u>
          <u>than the deictic center</u>') for free.'
      b. […] die Tür habe offen gestanden, und man sei einfach *herein*spaziert […].
                                                                                         [41]
          'The door would have been open and one has just walked <u>in</u>.'
      c. Mit dem Auto kann man bis *an* den See *heran* fahren.   [42]
          'You can drive <u>to</u> the (ACC) lake by car.'
      d. Dann fahren sie *aufs* offene Meer *hinaus*.   [43]
          'Then they sail <u>out/off onto</u> the (ACC) high seas (toward a goal other than
          the deictic center).'

5.6   Trajective

This section focuses on a new type of path construction exemplified in (21d–e), in
comparison to the similar path satellites in (21a–c). This special type of path con-
struction involves a double particle verb (i.e. a base verb with both a deictic particle
and a non-deictic particle attached to it at the front) and an accusative object, but
no prepositional phrase such as those that appear in (21a–c).

(21) a. Er kletterte *auf* den Hang.   [44]
          'He climbed <u>onto</u> the (ACC) slope.'
      b. Er kletterte *auf* den Hang *auf*.   [45]
          'He climbed up <u>onto</u> the (ACC) slope.'
      c. Er kletterte *auf* den Hang *hinauf*.   [46]
          'He climbed up <u>onto</u> the (ACC) slope toward a location other than the
          deictic center.'
      d. Er kletterte *den Hang hinauf*.   [47]
          'He climbed <u>the</u> (ACC) <u>slope</u> toward a location other than the deictic center.'
      e. Fünf Menschen sind bei einem Busunglück im nordrhein-westfälischen
          Radevormwald gestorben, als ein Linienbus *einen Abhang hinunter*stürzte.
                                                                                         [48]
          'Five people were killed in a bus accident in Radevormwald in North
          Rhine-Westfalia, when their public-transit bus came <u>down the slope</u> toward
          a location other than the deictic center'.

Let us first examine the examples in (21a–c). Some interesting commonalities can
be drawn from this set of closely related examples (Draye 1992: 169–170):

1. They all contain a motion verb, which profiles an upward-oriented path: the simple verb *klettern* ('climb') in (21a), the particle verb *aufklettern* ('climb up') in (21b), and the double particle verb *hinaufklettern* ('climb up toward a location other than the deictic center') in (21c), which incorporates a deictic perspective into the scene.
2. The upward-oriented path itself is not coded.
3. The three verbs of motion all combine with a prepositional phrase with uniplex *auf* ('on'), which profiles a summative relation and hence governs the accusative case.
4. The upward-oriented summative path allows the TR to move into the LM's search domain.
5. The ACC-marked LM, i.e. the slope, specifies the endpoint of the path constituting its actually achieved goal (cf. Section 5.5).

However, the examples in (21a–c) also differ from each other in a number of meaningful ways, which can be traced back to the different construction types they instantiate. As noted before, (21a) exemplifies the construction with a verb of motion and a prepositional phrase with *auf* ('on'). (21b) contains a construction with the corresponding particle verb (*aufklettern* ('climb up')). Here the separable particle (*auf*) functions as a kind of *echoform* for the unisonous preposition, i.e. it repeats the same form. (21c) adds a deictic perspective to the same referential scene through the use of the double particle verb *hinaufklettern* ('climb up toward a location other than the deictic center'). It is therefore an example of a deictic destination path, also discussed with respect to (20) in Section 5.5.

Let us move on to the special construction type, as illustrated in (21d–e). In (21d) the LM (the slope) occurs as the spatial accusative of the double particle verb *hinaufklettern* ('climb up toward a location other than the deictic center'). Another example illustrating the opposite deictic direction is *hinunterstürzen* ('fall down toward a location other than the deictic center') in (21e). The usage is restricted to directions in the vertical dimension (up-down) (Draye 1992: 172). Apart from *hinauf-* and *herauf-* ('up in a deictically specified direction away from and toward the deictic center', respectively) and *hinunter-* and *herunter-* ('down in a deictically specified direction away from and toward the deictic center', respectively), only the deictic path satellites *hinab-* and *herab-* ('down in a deictically specified direction away from and toward the deictic center', respectively) can participate in this construction type.

As Draye (1992: 171) points out, the special construction type in (21d–e) brings to the fore the TR's summative motion along and in *permanent* contact with the extended, but not coded LM, either in a continuous (21d) or in a repeated (21e)

fashion. This sets (21d–e) apart from the closely related examples (21a–c) coding the salient endpoint of the path (i.e. the slope) but not the path itself. Such *accusative routes* (Dewell 2011: 115) or *trajectives* in the sense of Draye (1992) are a subtype of so-called *incremental themes*, i.e. "accusative object[s] that can be more or less identified with the aspectual route followed by the verb process" (Dewell 2011: 115). They signal completeness in that they code a route path that extends continuously to the end (Draye 1992: 169–172). Thus the extent of the slope in (21d–e) coincides with the aspectual extent of the verbal processes of climbing and falling down, respectively. Finally, it should be noted that trajectives can only occur in combination with double particle verbs, given the ungrammaticality of *Er kletterte den Hang *auf* ('He climbed up the (ACC) slope'). Consequently, we can say that the examination of a deictic satellite has revealed the existence of a new path coding type.

Given its specific characteristics, I consider the construction type illustrated in (21d–e) to be a separate type of path, complementing the six types described so far (cf. Table 1). If we apply the aspectual parameters discussed in Section 5 to this new construction type, the trajective can be defined as exhibiting positive values for all four aspectual parameters that we have considered. In sum, the trajective profiles an upward-oriented *summative* and *multiplex* path, allowing the TR to take a *complete* accusative route, which coincides with the route for the main verb process (*bounded*), and brings about a state of change in the TR-LM relationship as the predicate proceeds through time such that the TR adjourns to a new location, viz. the LM at the end of the path (*mutative*).

5.7   A classification of deictic path

Parallel to Table 1 for non-deictic path expressions, Table 2 offers an overview of the German deictic expressions that are used with the different aspectual path coding types, summarizing the results of Sections 5.1–5.6. Because the aspectual parameters and their values are as in Table 1, they are not included or repeated in Table 2.

Table 2. Deictic path encoding in German motion events
with verbs of self-propelled motion

Path coding type	Deictic path expression
Source	*her-* ('toward the deictic center')
	entgegen- ('toward the deictic center')
	heraus- ('out of toward the deictic center')
	hervor- ('forth from toward the deictic center')
Intended goal	*hin-* ('toward a goal other than the deictic center')
	(*hin*)*weg-* ('away from the deictic center')
	hinterher- ('after someone or something, following him, her, or it')
Path of incomplete traversal	*herum-*/ *umher-* ('around, about the deictic center')
	(*da*)*hin-* ('along one's way in a direction away from the deictic center')
	(*da*)*her-* ('along one's way toward the deictic center')
	hin und her ('back and forth away from and toward the deictic center')
Path of complete traversal	*hin-* ('to a goal other than the deictic center')
	her- ('to the deictic center')
	hindurch- ('all the way through toward a goal other than the deictic center')
	hinüber- ('all the way over toward a goal other than the deictic center')
	herüber- ('all the way over toward the deictic center')
	rüber- ('all the way over toward a goal other than the deictic center or toward the deictic center')
Boundary traversing path	*hindurch-* ('all the way through to a goal other than the deictic center')
	hinüber- ('all the way across to a goal other than the deictic center')
	über … hinweg- ('across and away from the deictic center')
	über … hinaus- ('out of and across toward a goal other than the deictic center')
Achieved goal	*hinan-* ('at, to, onto a location other than the deictic center')
	heran- ('at, to, onto the deictic center')
	hinauf- ('onto a location other than the deictic center')
	herauf- ('onto the deictic center')
	hinein ('into a location other than the deictic center')
	herein- ('into the deictic center')
	an/auf/in … hinaus- ('out/off at, to, onto, into a location other than the deictic center')
Trajective	*hinauf-* ('up in a deictically specified direction away from the deictic center')
	herauf- ('up in a deictically specified direction toward the deictic center')
	hinunter- ('down in a deictically specified direction away from the deictic center')
	herunter- ('down in a deictically specified direction toward the deictic center')
	hinab- ('down in a deictically specified direction away from the deictic center')
	herab- ('down in a deictically specified direction toward the deictic center')

6. Types of motion

Having explored the role of aspectual and deictic viewpoint for path encoding in German, we now proceed to investigate whether the classification proposed so far can be expanded beyond factive self-motion (i.e. self-agentive and non-agentive motion) to other types of motion. Section 6.1 is concerned with causative motion, Section 6.2 with fictive motion.

6.1   Causative motion

A basic causative situation consists of a caused event (functioning as the Figure of the entire causative situation), a causing event (functioning as the Ground of the entire causative situation), and the causal relation between the two (the resulting situation). In other words, one event (the causing event) serves as the Ground for another event (the caused event) in a Gestalt psychological sense. Note, however, that in the context of causative motion events the term Ground can also be used in a different, Talmian, sense: "the Ground component of the causing event is also the object that functions as the Figure of the caused event" (Talmy 2000-I: 494). For example, in a sentence of the type *John pushed Mary over the cliff*, Mary figures as the "Ground component" in the first event but as the Figure in the second, as she translocates relative to the LM (the cliff).

In this section I investigate the compatibility of three types of causative motion with the seven types of path (including the trajective) and with deictic motion (see Section 5). Matsumoto (2017, 2018) makes the following three-way distinction of caused motion: *co-motional* ('carry'-type), *ballistic* ('throw'-type), and *controlled* ('put'-type). The aim is to show that all path expressions that are used for self-motion can also be used for co-motional and ballistic causative motion, whereas some of them cannot be used for controlled causative motion. The three types of causative motion to be discussed here are illustrated in (22)–(24).

The examples in (22) represent cases of *co-motional causation* (sometimes also referred to as controlled or accompanying causation; cf. Bishop 1992: 298–299), and their verbs express *continuous* causative motion. Such verbs of continuous causation (e.g. *schieben* ('push, shove')) imply that the causer brings about a caused event and accompanies or controls that event until it is fully accomplished. By virtue of their aspectual construal as directed or undirected unbounded activities, verbs of continuous causation naturally fit in with immutative motion events, viz. intended goal (22a), path of incomplete traversal (22b), and path of complete traversal (22c), although combinations with mutative motion events are also possible, provided that the contextual conditions are met (22d–f). Deictic causative motion is found

in (22a), (22b), (22d), and (22f). The use of the cyclic *hin und her* ('back and forth away from and toward the deictic center') in (22b) with an iterative meaning signals a path of motion that extends in random directions with respect to the speaker's viewpoint. In (22d) the deictic verb *bringen* ('bring') expresses a path of motion toward the deictic center. (22f) is an example of the trajective construction with the sidewalk (*Bürgersteig*) expressing the up- (*hinauf*) and downward (*herab*) accusative route path relative to the deictic position one takes (*hin-* vs. *her-*) (cf. Section 5.6).

(22) a. Jede Reisegruppe wird da *hingekarrt*.   [49]
         'Every travel group is <u>run there</u> (<u>toward a location other than the deictic</u>
         <u>center</u>).'

     b. Jedes Kind mit Videospielgerät kann heute […] Dinosaurier *über* den
         Bildschirm *hin- und herschieben*.   [50]
         'Every child with a video game player nowadays can <u>move</u> dinosaurs <u>back</u>
         <u>and forth</u> on the (ᴀᴄᴄ) screen.'

     c. Bereits bei der morgendlichen Ankunft der Schiffe am Martini-Anleger
         im Bremer Hafen erwarteten zahlreiche Besucher die Matjes-Fässer und
         rollten sie *durch* die Böttchergasse zur Auktion.   [51]
         'Already in the morning at the time of the arrival of the boats at the Martini
         quay in the port of Bremen, many visitors waited for the matjes barrels and
         <u>rolled</u> them <u>through</u> the (ᴀᴄᴄ) Böttchergasse to the auction.'

     d. Meine Oma *brachte* irgendwann keine Bücher mehr mit *über* die Grenze
         […].   [52]
         'At some point in time my grandmother did not <u>bring</u> any books with her
         <u>across</u> the (ᴀᴄᴄ) border.'

     e. Wir *schieben* den Kuchen *in* den Ofen und lassen ihn während ca. 20
         Minuten backen.   [53]
         'We <u>shove</u> the cake <u>in</u> the oven and bake it for approximately 20 minutes.'

     f. So können Sie den Rollstuhl leichter den Bürgersteig *hinauf-* und *herab-*
         schieben.   [54]
         'In this way you can <u>move</u> the wheelchair more easily <u>up</u> and <u>down</u> the
         (ᴀᴄᴄ) sidewalk.'

The second type of causative motion to be examined is *ballistic* motion, as illustrated in (23). Ballistic causation entails that the causer induces a causing event leading to a caused event, without participating in the caused event itself[23] (cf. Bishop 1992: 298–299). Two subtypes of ballistic motion can be distinguished: the *throw*-type (23a–b) and the *send*-type (23c–e). Throwing verbs such as *werfen* ('throw') (23a) and

---

23. Except for reflexive constructions in which the agentive causer is at the same time the patientive causee, i.e. the agent of the caused event as in (23b).

sprengen ('blow') (23b) express discontinuous and abrupt motion and hence convey a sense of instantaneous causation. This allows for construals with bounded or mutative motion events (i.e. orientational paths (source and intended goal) with *aus* ('out of'), *nach* ('to'), and *zu* ('to'); paths of complete traversal; boundary traversing paths; and destination paths (achieved goal)) rather than with unbounded ones, i.e. paths of incomplete traversal, and with the trajective. The *send*-type does not show these restrictions. It can be used with both unbounded (23c) and bounded (23d–e) motion events. (23c) illustrates the compatibility of the *send*-type with paths of incomplete traversal. In (23d) the boss initializes the motion (sending), which brings about the caused event (seeing a doctor), construed as a bounded event. (23e) is an example of a causative trajective construction.

(23) a. Einbrecher *warfen* die ganze Beute *in* [den; BM] Fluss.   [55]
          'Burglars <u>threw</u> all of the stolen goods <u>into</u> the river.'
      b. Der Attentäter *sprengte* sich *in* die Luft!   [56]
          'The assassin <u>blew</u> himself <u>up</u>!'
      c. Ich will meine Bankdaten nicht *durchs* Internet *schicken*.   [57]
          'I don't want to <u>send</u> my bank details <u>through the</u> internet.'
      d. Mein Chef *schickt* mich *zum* Arzt!   [58]
          'My boss <u>sends</u> me <u>to</u> a doctor!'
      e. Er *schickte* sie die Leiter *hinauf*, bevor er ihr folgte.   [59]
          'He <u>sent</u> her <u>up</u> the ladder toward a location other than the deictic center, before following her.'

The third type of causative motion to be considered is the *controlled*-type. Typical causative verbs of (manual) control are the displacement verbs *stellen* ('put, place'), *setzen* ('set, place, put'), *legen* ('lay, place, put'), and *hängen* ('hang'), as well as the verb pair *geben* ('give') and *nehmen* ('take'). Examples are presented in (24).

(24) a. Das Ganze bei 250° C im Backofen karamellisieren lassen. Anschließend den Krokant *herausnehmen* und abkühlen lassen.   [60]
          'Caramelize everything in the oven at 250° C. Then <u>take out</u> the brittle in the direction toward the deictic center and leave it to cool.'
      b. […] wir haben vor Kurzem einen zehn Jahre alten Stubenkater gerettet, der *ausgesetzt* werden sollte.   [61]
          'Recently we saved a ten-year-old male domestic cat that was meant to be <u>abandoned (lit. put out)</u>.'
      c. Die meisten Packexperten empfehlen, alle Kleidungsstücke […] zunächst neben dem Koffer zu stapeln. Und dann die Hälfte davon wieder zurück *in* den Schrank zu *legen*.   [62]
          'Most packing experts advise stacking all clothes next to the suitcase first. And then <u>put</u> half of them back <u>into</u> the closet.'

d.   Blumen [sind] gerade frisch gepflanzt, Katze *wühlt* die Erde *durch* und macht sein [sic] Geschäft.   [63]
'The flowers have recently been planted, the cat <u>rakes up</u> the earth and does its business.'

The examples in (24) demonstrate that causative position verbs of the *put*-type are used in mutative motion events with satellites of the type: source (24a–b), achieved goal (24c), and boundary traversing path (24d). However, path satellites that specify a relation of incomplete traversal, complete traversal, or intended goal (e.g. *nach*, 'to') are not compatible with causative position verbs of the *put*-type: e.g. *setzen nach* ('put, place to'), *herumlegen* ('lay around, about the deictic center').

6.2   Fictive motion

Fictive motion refers to the phenomenon whereby "languages systematically and extensively refer to stationary circumstances with forms and constructions whose basic reference is to motion" (Talmy 2000-I: 104). Talmy refers to this as *constructional fictive motion*. Blomberg and Zlatev (2014: 397) use the more neutral term *non-actual motion* to refer to a number of "non-unitary" situations that lack "the experience of continuous change in relative position of an object against a background" i.e. observed motion (Zlatev et al. 2010: 394). However, note that although instances of fictive motion may be experienced to different degrees depending on the conceptualizer and the type of fictive motion, this is irrelevant for synchronic language use and linguistic meaning, which are determined "by intersubjectively binding norms of language", irrespective of individual perceptions and mental representations, or the lack thereof (Itkonen 2008: 19, 25). Accordingly, as claimed by Blomberg and Zlatev (2014), such (prelinguistic) experiences are related to actual motion (given that non-actual motion experiences are basically perceptual), and they can be relevant, but only as "possible motivations for using non-actual motion sentences" (Blomberg and Zlatev 2014: 399) and not as determinants of meaning. The authors argue that non-actual motion sentences can be motivated in a number of different experiential ways, viz. (1) enactive, kinesthetic perception, (2) the temporality of experience and visual scanning, and (3) imagination.

Fictive motion or *non-actual motion* in Blomberg's and Zlatev's (2014) terms, encompasses a number of rather diverse categories, including emanation. Common examples of emanation paths are paths of visual motion, auditory motion, olfactory motion, and light emission (for visual motion, see also Cappelle, this volume). As can be seen from the examples in (25)–(30), path satellites are used to express different types of emanation paths. Interestingly, there are no motion verbs, only manner-of-perception verbs (or corresponding nominalizations) and path

satellites, and as such Blomberg's and Zlatev's (2014: 397) criterion for non-actual motion sentences, according to which, at minimum, a motion verb must occur, is not met. Therefore, one could argue that the sentences do not fall in the category of fictive or non-actual *motion*. However, despite the fact that the motion is not linguistically represented, I hope to show that there are considerable similarities between non-actuality in the domains of motion and perception.

(25) a. Ich starre *nach* vorn / *aus* dem Fenster.   [64]
         'I stare for<u>ward / out of</u> the window.'

     b. Viele Deutsche blickten auf sie *herab*.   [65]
         'Many Germans looked <u>down</u> to them <u>in the direction toward the deictic center</u>.'

(26) a. Nachdem wir aus dem Terminal kamen, sahen wir schon die ersten Familien mit Plakaten und Willkommensgeschenken neugierig *umher*blicken. [66]
         'After we came out of the terminal, we already saw the first families with signs and welcome gifts curiously looking <u>around</u> (lit. around the deictic center).'

     b. 'Dort *über*blicken Sie am besten, wo ein freier Tisch ist, der Ihren Ansprüchen entspricht.   [67]
         'There you have the best <u>over</u>view of a free table which meets your wishes.'

(27) a. Von dort sieht man *durch* die Küche in den Garten.   [68]
         'From there you can see <u>through</u> the kitchen into the garden.'

     b. Die Wände sind dick und nur *über* den Balkon hört man die anderen. [69]
         'The walls are thick and you can only hear the others through the balcony.'

(28) a. Können Sonnenstrahlen *durch* eine Scheibe *hindurch* Sonnenbrand ver-ursachen?   [70]
         'Can sun rays cause a surnburn <u>through</u> a window all the way through toward a goal other than the deictic center?'

     b. Alle paar Schritte blieb er stehen, stellte sich auf die Zehenspitze, um *über* die Köpfe der Menschen *hinweg*zuschnuppern.   [71]
         'Every few strides he would stop and stand on his tiptoes in order to take a sniff <u>from above</u> people's heads (lit. <u>across, beyond people's heads and away from the deictic center</u>).'

     c. Seinen Namen hatte ich *über*hört.   [72]
         'I had not heard (lit. <u>over</u>heard) his name.'

(29) a. Viele Deutsche blickten *auf* sie herab.[24]   [73]
         'Many Germans looked down <u>to</u> them in the direction toward the deictic center.'

---

24. Repeated from Example (25b).

b. Jetzt habe ich gelernt, *in* meinen Körper *hinein*zuhorchen.   [74]
    'Now I have learned to listen <u>into</u> myself into a location other than the deictic center'.

(30) a. […] die Meisten sitzen unten und gucken den Berg *hinauf* !!!   [75]
    '[…] most of them are sitting beneath and look <u>up</u> the mountain toward a location other than the deictic center!!!'

b. […] ein langgezogener Ton eines Hornes klingt den Berg *hinab*.   [76]
    'A drawn-out tone of a horn sounds <u>down</u> the mountain toward a location other than the deictic center.'

The question now arises: if and to what extent can our findings with respect to the defined patterns of path encoding be expanded to such cases of fictive motion? The data seem to suggest that in German there is no restriction on the use of path satellites with fictive motion. Fictive motion events encode the same fine-grained information about aspect and deixis as factive motion events and can be analyzed along the same lines. Counterparts can be found for all types of path and deictic devices that we have encountered and analyzed so far with respect to factive motion. Some examples for each type of path are given in (25)–(30): source and intended goal (orientational path)[25] (25), path of incomplete traversal (26), path of complete traversal (27), boundary traversing path (28), achieved goal (29), and the trajective (30). They occur combined with a variety of perception verbs that are conceptualized as involving motion (*starren* ('stare'), *blicken* ('look'), *sehen* ('see'), *gucken* ('look'), *hören* ('hear'), *horchen* ('listen'), *klingen* ('sound'), and *schnuppern* ('sniff')). In (28a) a corresponding verbal noun is used (*Sonnenstrahlen* ('sun rays')). A deictic path perspective is included in (25b), (26a), (28a–b), (29a–b), and (30a–b). Examples of double particle verbs include *herabblicken* ('look down in the direction toward the deictic center') (25b, 29a), *umherblicken* ('look around the deictic center) (26a), *hinwegschnuppern* ('sniff across, beyond and away from the deictic center') (28b), *hineinhorchen* ('listen into a location other than the deictic center') (29b), *hinaufgucken* ('look up toward a location other than the deictic center') (30a), and finally *hinabklingen* ('sound down toward a location other than the deictic center') (30b).

    The examples in (25)–(30) demonstrate that German verbs of sensory perception (and related cases like emission of light or sound) allow for combinations with all seven types of path listed in Tables 1 and 2. Although path is not specific to motion alone, it is considered to be the schematic core of the motion event (cf. Section 2) and it fulfills a central role in motion event encoding in German, as I hope to have shown throughout this chapter. Therefore, motion and sensory

---

25. Relations of source and intended goal both instantiate orientational paths and are therefore taken together here, as in Section 5.1.

perception events are construed in similar ways, and the dynamics of fictive motion processing are paralleled in the domain of sensory perception. Cappelle (this volume; cf. Hypothesis 1) arrives at the same conclusion with respect to Dutch, a typologically closely related language, on the basis of a quantitative corpus analysis. Admittedly, in highly grammaticalized satellites, like that in (28c), not much "motion" is left.

6.3   Discussion

In the two previous subsections, I dealt with causative motion (Section 6.1) and fictive motion (Section 6.2). I have attempted to show that causative motion and fictive motion are compatible with all six types of path I distinguished in Section 4, Table 1, as well as with the additional trajective type (cf. Section 5.6). However, it was laid out that some subtypes of causative motion are not compatible with some path coding types (see the discussion of Table 3 below). Nonetheless, if we order languages with event-type neutral path expressions and languages with event-type specific path expressions along a continuum, we may carefully conclude that German would be situated toward the event-type neutral end of the continuum. First, it uses the same set of path expressions across all types of motion, viz. self-, causative, and fictive motion. Second, as I outlined in Section 3, it has a special slot for the expression of deixis, turning deixis into a preferred element of path to be expressed across different motion types. Typologically speaking, German, along with other satellite-framed languages such as English, Swedish, and Hungarian, belongs to the "neutral-coding type" (Matsumoto, this volume). It consistently makes use of event-type neutral linguistic means to encode path in different motion types (self-, fictive, and causative motion): satellites (i.e. adpositions, particles, and prefixes), deictic markers, and case markers.[26] Languages like Japanese and Marathi, on the other hand, are of the "shifting type". They use event-type specific means alongside neutral coding means and should be situated between the "neutral coding type" and the – at least hypothetically existing – "specialized coding type" (Matsumoto, this volume).

Table 3 shows that the different motion event types (which appear in the top row) can take all seven types of path (which appear in the left column). However, as observed earlier, there are some restrictions and differences among causative motion types in their compatibility with different path coding types. The only causative

---

26. By saying this, however, I do not want to suggest that V-languages lack event-type-neutral linguistic means. At least some V-languages can use the same deictic markers and case markers across event types. I wish to thank Kazuhiro Kawachi for pointing this out to me.

motion type that allows for systematic combinations with all seven different path types is the co-motional type. Ballistic motion verbs of the *throw*-type expressing discontinuous or abrupt motion do not seem to be attested for the path of incomplete traversal and the trajective because they are semantically incompatible with the requirement of continuous or repeated summative contact between TR and LM. Ballistic motion verbs of the *send*-type (cf. Examples (23c–e) above), on the other hand, express continuous causative motion and are therefore not excluded from the path of incomplete traversal and the trajective. Finally, causative position verbs of the *controlled*-type seem to be compatible with the path coding types of source, achieved goal, and boundary traversing path only. This can be explained by the fact that handling-verbs such as *stellen* ('put, place'), *setzen* ('set, place, put'), *legen* ('lay, place, put'), *hängen* ('hang'), *geben* ('give'), and *nehmen* ('take') semantically imply a discontinuous motion resulting in a change from one state to the next, i.e. they depict the displacement of the TR out of or into the LM's search domain.

Table 3. The encoding of path in German found to occur with different event-types

	Self-motion	Causative motion			Fictive motion
		Co-motional	Ballistic	Controlled	
Source	+	+	+	+	+
Intended goal	+	+	+	−	+
Path of incomplete traversal	+	+	*Throw*-type: − *Send*-type: +	−	+
Path of complete traversal	+	+	+	−	+
Boundary traversing path	+	+	+	+	+
Achieved goal	+	+	+	+	+
Trajective	+	+	*Throw*-type: − *Send*-type: +	−	+

7.   Conclusions and perspectives

This chapter began by investigating the different components of a complex motion event (viz. motion, figure, ground, path, manner, and cause) in terms of their lexical aspectual properties. The aim of this chapter was to analyze motion events in terms of an aspect-based classification of path encoding in German. The analysis revealed two key findings. First, situated around the cluster of languages defining Talmy's original satellite-framing type, but not in its center, German allows for detailed descriptions of the path of motion using fine-grained distinctions with respect to deictic and aspectual viewpoints. Seven different types of paths across

three different motion event types (self-, causative, and fictive motion) could be identified, integrating motion-independent, albeit motion-related properties such as syntactic construction, morphological form, aspectual marking, and deictic marking. The observed distributed representation of the proposed path-encoding types alone suffices to make the claim that the four binary parameters (summativity, plexity, boundedness, mutativity) are relevant dimensions of German motion event sentences, and even more so of lexical aspectual properties. Second, we can conclude from the analysis that German, along with many other languages, seems to have event-type neutral path expressions (although there were some notable exceptions) as well as a rich deictic path component.

Prospects for future research include developing a full-fledged typology of German expressions of path based on an extensive quantitative corpus analysis. By doing this, one could gain a firmer understanding of the conceptual mechanisms behind the semantic structure of path satellites and motion events in German, which, in turn, may deliver valuable input for purposes of cross-linguistic, typological comparison. First, further questions must be addressed with respect to the frequency of occurrence and the distribution of the different path coding types across different types of motion events. What patterns are most commonly used, and what is their distribution? Second, another relevant prospect would be studying the impact of the type of satellite (adposition, (double) particle, prefix) on a specific path coding type by looking at the meaning of the grammatical constructions that are involved in the expression of path, i.e. constructions with adpositions, particle verb constructions, and prefix verb constructions. Dewell (2011) has made a significant step in this direction. Third, while we have focused primarily on the relation between the semantic components path of motion and ground (LM) of motion, the relation between the components path of motion and manner of motion needs further clarification.

In sum, performing a detailed aspect-based classification of motion-events in a single language like German may help to refine the crosslinguistic typology of motion events in that it reveals the usefulness of more carefully identifying the distinct (albeit related) conceptual components that relate to the semantics of both satellites and conceptual categories and that correlate with(in) specific motion event types.

Acknowledgements

References

Bishop, N. 1992. A typology of causatives, pragmatically speaking. In Sh. Hwang & W. Merrifield (Eds.), *Language in context: Essays for Robert E. Longacre* (295–304). The Summer Institute of Linguistics and the University of Texas at Arlington.

Blomberg, J., & Zlatev, J. 2014. Actual and non-actual motion: Why experientialist semantics needs phenomenology (and vice versa). *Phenomenology & the Cognitive Sciences*, 13(3), 395–418. https://doi.org/10.1007/s11097-013-9299-x

Cappelle, B. This volume. Looking into visual motion expressions in Dutch, English and French: How languages stick to well-trodden typological paths.

Comrie, B. 1976. *Aspect: An introduction to the study of verbal aspect and related problems*. Cambridge: Cambridge University Press.

Croft, W. 2012. *Verbs: Aspect and causal structure*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199248582.001.0001

Croft, W., Barðdal, J., Hollmann, W., Sotirova, V., & Taoka, C. 2010. Revising Talmy's typological classification of complex event constructions. In H. C. Boas (Ed.), *Contrastive studies in construction grammar* (201–235). Amsterdam: John Benjamins. https://doi.org/10.1075/cal.10.09cro

DeLancey, S. 1981. An interpretation of split ergativity and related patterns. *Language*, 57, 626–657. https://doi.org/10.2307/414343

Dewell, R. B. 1997. Construal transformations: Internal and external viewpoints in interpreting containment. In M. H. Verspoor, K. D. Lee, & E. Sweetser (Eds.), *Lexical and syntactical constructions and the construction of meaning* (17–32). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cilt.150.05dew

Dewell, R. B. 2011. *The meaning of prefix / particle constructions in German*. Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/hcp.34

Draye, L. 1992. Zum Trajektiv. Ein Kapitel aus der kognitiv orientierten niederländisch-deutschen Kontrastivgrammatik. *Leuvense Bijdragen*, 81, 163–203.

Draye, L. 1996. The German dative. In W. Van Belle & W. Van Langendonck (Eds.), *The Dative. Vol 1: Descriptive studies* (155–215). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cagral.2.09dra

Evans, V., & Tyler, A. 2004. Rethinking English 'prepositions of movement': The case of *to* and *through*. In H. Cuyckens, T. Mortelmans, & W. De Mulder (Eds.), *Belgian Journal of Linguistics 18: Adpositions of Movement: Proceedings of the International Conference on Adpositions of Movement* (Leuven 2002) (247–270). Amsterdam & Philadelphia: John Benjamins.

Goschler, J., & Stefanowitsch, A. 2010. Pfad und Bewegung im gesprochenen Deutsch: Ein kollostruktionaler Ansatz. In E. Ruigendijk, Th. Stolz, & J. Trabant (Eds.), *Linguistik im Nordwesten* (103–115). Bochum: Brockmeyer.

Hawkins, B. W. 1985. The semantics of English spatial prepositions. Ph.D. dissertation, University of California, San Diego. Reproduced by L.A.U.T., Series A, Paper No. 142.

Ibarretxe-Antuñano, I. 2017. Motion and semantic typology: A hot old topic with exciting caveats. In I. Ibarretxe-Antuñano (Ed.), *Motion and Space across Languages: Theory and applications* [Human Cognitive Processing 59] (13–36). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.02iba

Itkonen, E. 2008. Concerning the role of consciousness in linguistics. *Journal of Consciousness Studies*, 15(6), 15–33.

Jokinen, E. 2005. *Ortswechsel, Orientierung und Origo. Eine Korpusanalyse ausgewählter deutscher Richtungsadverbien mit* hin- *und* her- *und ihrer finnischen Entsprechungen*. Ph.D. dissertation, University of Tampere. [http://acta.uta.fi/pdf/951-44-6453-2.pdf]

Lewandowski, W. 2018. A typological approach to the encoding of motion events. In M. de los Ángeles Gómez González & J. Lachlan Mackenzie (Eds.), *The Construction of Discourse as Verbal Interaction* [Pragmatics & Beyond New Series 296] (45–74). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/pbns.296

Leys, O. 1989. Aspekt und Rektion räumlicher Präpositionen. *Deutsche Sprache*, 17, 97–113.

Leys, O. 1995. Dativ und Akkusativ in der deutschen Sprache der Gegenwart. *Leuvense Bijdragen*, 84, 39–62.

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In Sh. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A festschrift for Masaru Kajita* (403–418). Tokyo: Kaitakusha.

Matsumoto, Y. (Ed.). 2017. *Idoo-hyoogen no ruikeiron*. Tokyo: Kurosio.

Matsumoto, Y. 2018. Motion event descriptions in Japanese: Typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics*. Berlin: Mouton. https://doi.org/10.1515/9781614514077-010

Meex, B. 2004. Motion, path and aspect: The case of the German path adpositions *über* and *durch*. In H. Cuyckens, T. Mortelmans, & W. De Mulder (Eds.), *Belgian Journal of Linguistics 18: Adpositions of Movement: Proceedings of the International Conference on Adpositions of Movement* (Leuven 2002), (299–322). Amsterdam & Philadelphia: Benjamins.

Ochsenbauer, A.-K., & Hickmann, M. 2010. Children's verbalizations of motion events in German. *Cognitive Linguistics*, 21, 217–238. https://doi.org/10.1515/COGL.2010.008

Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.

Rice, S. 1999. Aspects of prepositions and prepositional aspect. In L. de Stadler & C. Eyrich (Eds.), *Issues in cognitive linguistics: 1993 Proceedings of the International Cognitive Linguistics Conference* (225–247). Berlin & New York: Mouton de Gruyter. https://doi.org/10.1515/9783110811933.225

Schubert, C. 2009. *Raumkonstitution durch Sprache: Blickführung, Bildschemata und Kohäsion in Blickführung, Bildschemata und Kohäsion in Deskriptionssequenzen englischer Texte*. Tübingen: Max Niemeyer Verlag. https://doi.org/10.1515/9783484971301

Slobin, D. I. 1996. Two Ways to Travel: Verbs of Motion in English and Spanish. In M. Shibatani and S. A. Thompson (Eds.), *Grammatical Constructions: Their Form and Meaning* (195–219). Oxford: Oxford University Press.

Slobin, D. I. 2004. The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Mahwah, NJ: Lawrence Erlbaum Associates.

Snell-Hornby, M. 1983. *Verb-descriptivity in German and English: A contrastive study in semantic fields*. Heidelberg: Winter.

Takahashi, K. This volume. Syntactic and semantic structures of Thai motion expressions.

Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and syntactic description*, Vol. 3 (36–149). Cambridge: Cambridge University Press.

Talmy, L. 1991. Path to realization: A typology of event conflation. In *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society* (480–519). Berkeley Linguistics Society, University of California, Berkeley.

Talmy, L. 2000. *Toward a cognitive semantics*, Vols. 1 and 2. Cambridge, MA: MIT Press.

Talmy, L. 2016. Properties of Main Verbs. *Cognitive Semantics*, 2, 133–163.
https://doi.org/10.1163/23526416-00202001

Taylor, J. 1993. Prepositions: Patterns of polysemization and strategies of disambiguation. In C. Zelinski-Wibbelt (Ed.), *The semantics of prepositions: From mental processing to natural language processing* (151–175). Berlin & New York: Mouton de Gruyter.
https://doi.org/10.1515/9783110872576.151

Verkerk, A. 2014. The evolutionary dynamics of motion event encoding. Ph.D dissertation, Radboud University, Nijmegen.

Wienold, G. 1995. Lexical and conceptual structures in expressions for movement and space: With reference to Japanese, Korean, Thai, and Indonesian as compared to English and German. In U. Egli, P. Pause, C. Schwarze, A. von Stechow, & G. Wienold (Eds.), *Lexical knowledge in the organization of language*, (301–340). Amsterdam & Philadelphia: John Benjamins.
https://doi.org/10.1075/cilt.114.14wie

Zlatev, J., Blomberg, J., & David, C. 2010. Translocation, language and the categorization of experience. In V. Evans & P. Chilton (Eds.), *Space in language and cognition: The state of the art and new directions* (389–418). London: Equinox.

Appendix. Corpus details

[1]   http://geschichtenwerkstatt.wordpress.com/2009/06/18/ein-leben-im-zamunda
[2]   http://www.urlaubshund.de/object.php?id=42&PHPSESSID=36aec64979a8f05af8ccee4d420979e7)
[3]   http://www.storchennest.de/forum/viewtopic.php?p=131019
[4]   http://www.facebook.com/permalink.php?story_fbid=113458455354376&id=110189202347968)
[5]   http://www.brainr.de/brainstorming/show/17277-wieso-setzt-sich-niemand-neben-mich-im-bus-zug-obwohl-alles-voll-ist
[6]   *Süddeutsche Zeitung*, 24.06.1998, p. 11
[7]   *Züricher Tagesanzeiger*, 22.10.1997, p. 19
[8]   http://www.gutefrage.net/frage/wie-schnell-fahrt-ihr-auf-der-autobahn
[9]   http://www.focus.de/reisen/urlaubstipps/bahn/20-jahre-ice-mit-300-stundenkilometer-durch-hoehen-und-tiefen_aid_631688.html
[10]   Handelsblatt, 25.08.1995, G6
[11]   http://www.duesseldorf-tourismus.de/top-veranstaltungen/duesseldorfer-weihnachtsmarkt/
[12]   http://gutenberg.spiegel.de/buch/2110/7
[13]   http://www.storchennest.de/forum/viewtopic.php?p=131019
[14]   http://www.gemeinsamlernen.de/townstories/arbeitsergebnisse/ulm/Wohlfuehlen56fe.html?language=de&part=7
[15]   *Frankfurter Rundschau*, 31.07.1997, p. 2
[16]   http://www.flusskreuzfahrten-koeln.de/travels/travel.asp?t=72E13AFB-76C2-415C-82CC-A42A6E034DAD

[17]   http://www.berliner-zeitung.de/archiv/last-minute-silvester--ein-paar-eilige-tipps-fuer-
        alle--die-immer-noch-keinen-plan-haben-jetzt-ist-aber-fuenf-vor-zwoelf-,10810590,
        10349446.html

[18]   http://www.shortnews.de/id/524042/Schweiz-Frau-springt-aus-Angst-vor-dem-Ehemann-
        aus-dem-Fenster-der-2-Etage

[19]   http://www.finanztip.de/recht/sonstiges/fg1432.htm

[20]   http://www.merkur-online.de/lokales/moosburg/80-jaehrige-radfahrerin-stuerzt-fluss-
        dramatische-rettungsaktion-isar-1189760.html

[21]   http://www.ol-landshut.de/veranstaltungen/2012baymlang/technische-info-bm.pdf

[22]   http://www.berliner-zeitung.de/archiv/volle-fahrt-voraus,10810590,10102108.html

[23]   http://www.zeit.de/online/2009/19/grippe-interview-hacker

[24]   http://www.holidaycheck.de/hotelbewertung-Hotel+Golden+Age+Ich+wuerde+auf+-
        jeden+Fall+noch+mal+hinfliegen-ch_hb-id_405816.html

[25]   http://www.abendzeitung-muenchen.de/inhalt.rettungsaktion-12-jaehrige-springt-aus-
        frust-in-den-main.7aa054b3-6f99-4e0c-af4d-cd72ef0ec6b5.html

[26]   http://www.abendblatt.de/hamburg/article442330/Geh-weg-du-bist-zu-haesslich.html

[27]   http://www.meiervision.de/reiseberichte/berichte/fjordp_norw/geir_ind.htm

[28]   http://www.focus.de/finanzen/karriere/management/koerpersprachekoerpersprache/
        standpunkt_aid_6643.html

[29]   http://www.zeit.de/1958/30/gepruefte-pruefer

[30]   http://www.spiegel.de/panorama/costa-concordia-kapitaen-schettino-lief-i
        n-panik-hin-und-her-a-810741.html

[31]   http://www.berliner-zeitung.de/newsticker/eine-mutter-laesst-ihre-kinder-verdursten--
        verwandte-und-nachbarn-schauen-nicht-hin--daniela-j--steht-vor-gericht-doch-es-geht-
        nicht-nur-um-sie-ploetzlich-war-ruhe,10917074,9772472.html

[32]   http://www.maerchen.com/andersen/der-kleine-tuk.php

[33]   http://www.20min.ch/digital/dossier/clips/story/24326230

[34]   http://www.zeit.de/2009/27/Teheran-Reportage/seite-3

[35]   http://www.welt.de/print-wams/article107256/Stani-der-Kniefall-des-FC-St-Pauli.html

[36]   http://www.anhaltspunkte.de/zeitung/urteile/B_2_U_12.09_R.htm

[37]   *Frankfurter Rundschau*, 04.12.1997, p. 10

[38]   Self-constructed example adapted from [37]

[39]   *Süddeutsche Zeitung*, 29.10.1998

[40]   http://www.familienschnack.de/wochenendtipps/wohin-am-wochenende-6-7-august/

[41]   http://www.zeit.de/2007/45/Venezuela

[42]   http://www.berliner-zeitung.de/archiv/norwegen--es-muss-nicht-immer-die-schiffstour-
        zum-nordkap-sein--die-region-um-bergen-setzt-auf-autowandern-lust-auf-laufen,
        10810590,10016352.html

[43]   http://www.zeit.de/2000/05/Eintopf_fuer_Gross_&amp%3B_Klein/seite-3

[44]   Self-constructed example adapted from [47]

[45]   Self-constructed example adapted from [47]

[46]   Self-constructed example adapted from [47]

[47]   http://www.zeit.de/2007/23/N-Dinosaurier-Streit

[48]   http://www.welt.de/vermischtes/article4591186/Bus-Passagiere-kletterten-blutend-den-
        Hang-hinauf.html

[49]   http://www.reise-weblog.de/50226711/die_sieben_neuen_weltwunder_die_chinesische_mauer_china.php

[50]   http://www.spiegel.de/spiegel/print/d-13692038.html

[51]   http://www.matjes.de/aktuell/nachrichten/archiv/?tx_matjes_pi4%5BshowUid%5D=603

[52]   http://www.berliner-zeitung.de/newsticker/mit-pass-in-den-westen,10917074,10930084.html

[53]   http://www.eventfocus.ch/?content=rezept_apfelk

[54]   http://www.senioren-ratgeber.de/Pflege/Pflege-zu-Hause-Unterwegs-mit-dem-Rollstuhl-118489.html

[55]   http://www.kleinezeitung.at/kaernten/wolfsberg/649444/index.do

[56]   http://www.cosmiq.de/qa/show/3178472/Der-Attentaeter-sprengte-sich-in-die-Luft-Ja-gibt-s-denn-da-keine-serioesere-Ausdrucksmoeglichkeit/

[57]   http://strickmich.frischetexte.de/faq/

[58]   http://www.rund-ums-baby.de/forenarchiv/schwanger/2012-01/Mein-Chef-schickt-mich-zum-Arzt_1998.htm

[59]   http://www.amazon.de/Inseln-im-Netz-Bruce-Sterling/dp/3453196643

[60]   http://www.zeit.de/online/2009/17/kaffee-rezepte/seite-3

[61]   http://www.mietzmietz.de/verhalten-von-katzen/69039-kater-kommt-nur-nachts-aus-seinem-versteck-hervor/

[62]   http://www.zeit.de/2012/22/Von-A-nach-B-Ideen

[63]   http://www.katzen.de/german/katzenecke/archiv/53867/kater_macht_sein_geschaeft_in_nachbars_blumenbeet.html

[64]   http://hdsl-shop.de/tcrudolstadt/page.php?modul=Guestbook&list_order=DESC&start-pos=40&zps=5

[65]   http://www.berliner-zeitung.de/archiv/vor-50-jahren-kamen-die-ersten-gastarbeiter-aus-italien--geschichte-eines-aufstiegs-der-weg-nach-norden,10810590,10346732.html

[66]   http://www.kgs-sittensen.de/01_04_usa2014.htm

[67]   http://www.focus.de/finanzen/karriere/management/koerpersprache/koerpersprache/auftreten_aid_5456.html

[68]   http://www.annabelle.ch/leben/wohnen/work-love-balance-im-bernoulli-h%C3%A4uschen-40950

[69]   https://www.holidaycheck.de/hrd/hotel-lintzi-gerne-wieder/1005b387-d453-396a-bd37-73a2727a0c95

[70]   http://www.gutefrage.net/frage/koennen-sonnenstrahlen-durch-eine-scheibe-hindurch-sonnenbrand-verursachen

[71]   *Das Parfum*, p. 51

[72]   *Homo faber*, p. 7

[73]   http://www.berliner-zeitung.de/archiv/vor-50-jahren-kamen-die-ersten-gastarbeiter-aus-italien--geschichte-eines-aufstiegs-der-weg-nach-norden,10810590,10346732.html

[74]   http://www.brigitte.de/figur/yoga-balance/yoga-relax/kein-problem-schlagfertig-568921/

[75]   http://de.nachrichten.yahoo.com/bundestag-debattiert-%C3%BCber-neonazi-terror-062600135.html

[76]   http://www.drosi.de/md/md100_32.htm

Syntactic and semantic structures of Thai motion expressions

Kiyoko Takahashi

Kanda University of International Studies

Thai expressions for a single motion event usually take the form of a single clause that is typically composed of serial verb phrases encoding sub-events (semantic components) of the motion event. The present chapter aims to show that the syntactic and semantic structures of such expressions can be adequately formulated based on the 'force-dynamic' structures (cf. Talmy 1988, 2000a) of motion events and 'aspectual' types (cf. Vendler 1967) of motion verbs. The event structures and verb types that are relevant to the syntactic patterns of the expressions reflect Thai speakers' conventional construals for expressing motion events in the Thai language.

Keywords: aspectual types, event structures, serial verbs

1. Introduction

Talmy's (1991, 2000b: 213–288) typology of motion expressions assumes that a clause representing a 'macro-event' of motion consists of a verb root (main verb) and a 'satellite' to the verb.[1] It categorizes languages into two main types on the basis of where the path of motion (the path alone or the path together with its ground locations) that delimits the motion event is encoded in a motion expression. Languages that characteristically express the path with the verb are named 'verb-framed' languages (e.g. Spanish) and languages that characteristically express the path with the satellite are termed 'satellite-framed' languages (e.g. English).

---

1. A 'macro-event' is defined as a fundamental and recurrent type of complex event that "consists of a pair of cross-related Figure-Ground events"; it "can be conceptualized as composed of two simpler events and the relation between them" (Talmy 1991: 482, 2000b: 213). A 'satellite (to the verb)' is defined as the "grammatical category of any constituent other than a noun-phrase or prepositional-phrase complement that is in a sister relation to the verb root" (Talmy 2000b: 102). See also Talmy (2016) for the view that adpositions are satellites in their broader sense.

However, Croft (2003) has pointed out the incompleteness of such a binary typology. He observed that both verb-framing and satellite-framing are asymmetric strategies (i.e., one component is the main verb and the other is a satellite or a form that does not function as a main verb) but there is a range of symmetric strategies found in the world's languages such as serial, compounding, double coding, and coordinate strategies (Croft 2003: 222–224). Thai is arguably a language with the typical serial strategy (i.e. co-predications in a single clause) as shown by the analysis presented in this chapter. Slobin (2004: 228) set forth a ternary typology with a third type named 'equipollent-framing'. In equipollently framed languages, both the cause/manner and the path of motion are expressed by equipollent grammatical forms (e.g. serial verbs that can independently function as a main verb). Thai has been considered an equipollently framed language (e.g. Slobin 2004). As is the case with Talmy's idea of satellite- vs. verb-framing, Slobin's idea of equipollent-framing relies on a postulation that motion verbs are dichotomized into the path verbs and the co-event verbs (representing cause and manner). However, I do not take up this two-way classification of verbs. I will argue that Thai descriptions of motion events require a finer categorization of verbs (see the discussion in Section 3).

In typical verb-serializing languages like Thai, motion verbs of different types can co-occur in a clause expressing a single motion event. Those co-occurring motion verbs may encode somewhat specific categories of the semantic components of motion. When examining the semantic structures of motion expressions in a verb-serializing language, therefore, we need to deal with special, less general categories of motion components (such as deictic path and terminative path), and we cannot deal only with general, superordinate categories of motion components (such as cause/manner and path).

The present chapter accounts for the syntactic and semantic structures of Thai motion expressions. It argues for the following. First, the event structures of Thai motion expressions are rather complex. A self-controlled or spontaneous motion expression profiles either a simplex structure with only the process phase or a bipartite structure with the phases of process and change (plus state), whereas a caused motion expression profiles either a bipartite structure with the phases of causation and process or a tripartite structure with the phases of causation, process, and change (plus state). Second, the adequate classification of Thai motion verbs on the basis of their syntactic behaviors as well as semantic properties is, in part, language-specific. While the aspectual properties of most classes of Thai motion verbs are common properties found across languages, some classes exhibit peculiar aspectual properties. For example, one class of path verbs express 'prestadial' motion events (for the definition of 'prestadial', see Section 3.1), that is, an achievement motion event with its terminal boundary highlighted, such as dropping onto the ground or sinking down to the bottom of the sea. The present chapter demonstrates

the kinds of variation that languages can exhibit in the syntactic patterning of motion event descriptions.

The data of Thai motion expressions, on which this study is based, are from a number of relevant studies including my own (Kessakul 2005; Muansuan 2002; Takahashi 2009b, 2009c, 2017a, 2017b, 2018a, 2018b; Thepkanjana 1986; Zlatev 2003; Zlatev and David 2003; Zlatev and Yangklang 2004). The present study also makes use of empirical data of Thai motion expressions obtained in three video-based speech elicitation experiments (as a part of a NINJAL-Kobe project on motion event descriptions), in which fifteen (for Experiment A, conducted in 2012 and 2018), eighteen (for Experiment B, conducted in 2011), and forty-three (for Experiment C, conducted in 2016) Thai native speakers participated.[2] The elicited speech data from these experiments corroborate my argument for the elaborated system of Thai motion expressions described in this chapter.

The analysis presented in this chapter builds upon my earlier work on Thai arrival expressions (Takahashi 2009c) and my preliminary description of conspicuous characteristics of Thai motion expressions in general (Takahashi 2017a). The present chapter provides a clearer explanation of the force-dynamic structures of motion events that Thai speakers verbalize as well as a more elaborated classification of Thai motion verbs by considering fundamental aspectual values with regard to: dynamics (dynamic vs. static), durativity (durative vs. punctual), and boundedness (bounded vs. unbounded), which are recognized in motion represented by each force-dynamics-related and aspectual class of verbs.[3]

The remainder of this chapter is organized as follows. Section 2 describes Thai motion expressions in general. Section 2.1 reviews three previous studies and compares them with the present study, and Section 2.2 looks at typical examples of various types of motion expressions in Thai. Section 3 examines the syntactic and semantic structures underlying Thai expressions for motion macro-events as well as aspectual properties of verbs used in the expressions. Section 4 clarifies the

---

2.   The three production experiments were created by Yo Matsumoto and his colleagues with grants from JSPS (the Japan Society for the Promotion of Science) and NINJAL (the National Institute for Japanese Language and Linguistics). Experiment A aims to elicit descriptions encompassing three different motion components, that is, the combination of (a) manner (walking, running, or skipping), (b) path (TO, TO plus IN, or UP), and (c) deixis (toward the speaker, away from the speaker, or neutral) (cf. Kawachi, and Morita in this volume). Experiment B concentrates on the deictic component and aims to elicit descriptions of deictic motion (cf. Matsumoto, Akita, and Takahashi 2017). Experiment C focuses on the non-deictic path components and aims to elicit descriptions of motion with diverse path types (cf. Takahashi 2018b).

3.   Vendlerian categories of lexical aspects of verbs (viz. state, activity, achievement, and accomplishment) suffice for the syntactic patterning of Thai motion event descriptions. A finer classification (e.g. Van Valin 2005, Chapter 2; Croft 2012) is not necessary for that purpose.

nature of path-related morphemes in Thai. The main purpose of this chapter is to delve into the compositional systems of the expressions' basic constituents, namely, verb phrases (verbs and their objects or complements).[4] However, the demarcation between path-related verbs (a variety of path verbs and deictic verbs), on the one hand, and functional morphemes derived from the verbs (path prepositions and aspectual/modal satellites), on the other hand, is important in analyses of Thai motion expressions. Therefore, Section 4 elucidates the differences among those path-related morphemes.[5] Section 5 briefly concludes this chapter.

2.   Thai motion expressions: General descriptions

2.1   Review of previous studies

Prior research on Thai motion expressions has postulated different syntactic and semantic structures underlying the expressions. This subsection briefly examines three previous studies with proposals of the underlying structures that are somewhat similar to this study's proposal – i.e. Thepkanjana 1986, Zlatev and Yangklang 2004, and Kessakul 2005 – and clarifies the commonalities and differences between their proposals and that of this study.

2.1.1   *Thepkanjana (1986)*
Thepkanjana (1986) is an early seminal work on Thai serial verb constructions. In her analysis of the constructions containing directional verbs (or motion verbs), Thepkanjana (1986: 135–142) expounds on possible syntactic patterns for expressing a single motion event, as shown below. Her claim is that when more than one motion verb is used to encode a single motion event, the verbs should be serialized in this order.

---

4.   'Verb phrases' are defined differently depending on linguistic theory. Some theories doubt whether the 'verb phrase' is a crosslinguistic category. In this chapter, however, I conventionally use the term 'verb phrase' to refer to 'a syntactic unit consisting of a verb and its object or complement noun phrase', for there are no other terms adequate for referring to such a unit.

5.   The crucial difference between the original motion verbs and the derived functional morphemes is that in actual use, the former lexical morphemes can, while the latter functional morphemes cannot, have a particular lexical aspect. Lexical morphemes (motion verbs) may exhibit neutrality in lexical aspect (see Section 3.1), but functional morphemes (aspectual/modal markers) are irrelative to such neutrality (see Section 4).

$_{\text{initial verb}}[A] + _{\text{serial verbs}}[B + C + D1 + D2 + E]$

A: verbs for locomotion (e.g. *dəən* 'walk'); verbs for travel (e.g. *dəən thaaŋ* 'travel'), accompanying motion (e.g. *bɛ̀ɛk* 'carry'), or ballistic motion (e.g. *yoon* 'throw'); verbs for communication (e.g. *bɔ̀ɔk* 'tell'), transaction (e.g. *súuu* 'buy'), or change (e.g. *plìan* 'change'); verbs for destruction (e.g. *thamlaay* 'destroy'), disappearance (e.g. *hǎaj* 'disappear'), or excess state (e.g. *phɛɛŋ* 'be expensive')

B: verbs for geometric shape of the path (e.g. *won* 'circle', *khót* 'zigzag')

C: verbs for direction with respect to the previous path (e.g. *yɔ́ɔn* 'reverse, turn back', *thǒj* 'retreat, start to move backward')

D1: verbs for direction with respect to an object located in the outside world (e.g. *phàan* 'pass', *khâam* 'cross', *càak* 'leave')

D2: verbs for direction resulting from interaction between the path and the outside world (i.e. *khâw* 'enter', *ʔɔ̀ɔk* 'exit', *khûn* 'ascend', *loŋ* 'descend')[6]

E: verbs for direction with respect to speech act participant (i.e. *paj* 'go', *maa* 'come')

An array of serial verbs (i.e. non-initial verbs) from the classes B to E vary according to the semantic types of the initial verb from class A, as follows (Thepkanjana 1986: 142–154).[7]

a. [A: locomotion] + [B + C + D1 + D2 + E]
b. [A: travel, accompanying/ballistic motion] + [C + D1 + D2 + E]
c. [A: communication, transaction, change] + [E]
d. [A: destruction, disappearance, excess state] + [E: *paj* 'go']
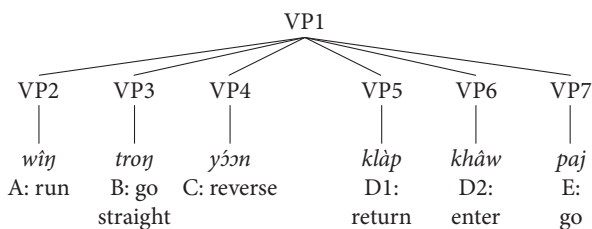
'(He) ran along straight back in (away from the deictic center).'

Figure 1. Thepkanjana's (1986) exemplification of the syntactic structure including different types of motion verbs

---

6. Normally, these four verbs are mutually exclusive and only one of these verbs can be used in a given clause.

7. When the initial verb expresses locomotion, non-initial verbs from any of the classes B to E can occur. When the initial verb expresses travel, accompanying motion, or ballistic motion, a non-initial verb from class B cannot occur. When the initial verb expresses communication, transaction, or change, only a non-initial verb from class E can occur. And when the initial verb expresses destruction, disappearance, or excess state, only the verb *paj* 'go' can occur.

Figure 1 depicts the syntactic tree structure posited by Thepkanjana (1986: 155). In this flat tree structure, a verb phrase (VP1) binds all the verb phrases from the six classes (VP2 through VP7) together. From this structure, we can see that she considers the co-occurring verb phrases to form a coordinate structure. I share her view in this respect (see Section 3.2).

In my view, however, her generalizations regarding verb types and verb order restrictions are not accurate. There are some examples that do not conform to the generalizations (e.g. *wîŋ yɔ́ɔn troŋ maa* 'A: run + C: reverse + B: go straight + E: come'). I consider verbs from class B such as *troŋ* 'go straight', *khót* 'zigzag', and *chěe* 'veer' (except for the verb *won* 'circle') to be inherently stative verbs, since they by themselves cannot express a motion event (e.g., *man troŋ* 'It was straight.' does not mean 'It went straight.'). When used in motion expressions, they function as adverbials specifying particular path configurations, whose syntactic position is relatively free (Takahashi 2009b: 33). In addition, I consider the demarcation between classes D1 and D2 as dispensable (see Section 3.1). Although it is true that the degree of versatility of verbs from class D2 is much more remarkable than that of verbs from class D1 (see Section 4.2), the ordering between verbs from these two classes is, in fact, not fixed. A verb from class D2 may precede a verb from class D1, e.g. *ʔɔ̀ɔk phón* 'D2: exit + D1: pass' (Takahashi 2009b: 34); *kradòot khûn càak klɔ̀ɔŋ paj bon kâwʔii* 'A: jump + D2: ascend + D1: leave + E: go' (Takahashi 2018b: 439).[8]

2.1.2   *Zlatev and Yangklang (2004)*

Zlatev and Yangklang (2004) is an influential work within the field of typological studies of motion expressions. Their work draws on narrative production data. Slobin's (2004) concept of the 'equipollent framing' was inspired by their claim that Thai should belong to 'a third class'. They argue that path verbs and manner verbs in Thai are of equal status, and that neither type of verbs is subordinate to the other in a mono-clausal motion expression (Zlatev and Yangklang 2004: 161, 163, 188). I concur with this view (see Section 3.2).

Of particular note is that they set up a novel class of motion verbs, viz. 'Manner + Path (MP) verbs' which arguably occupy an intermediate position between typical

---

8.   A reviewer maintains that *càak klɔ̀ɔŋ* in this example and in (5) is a path prepositional phrase meaning 'from the box', and argues against my claim that *càak* occurring before a deictic verb in a mono-clausal serial verb construction expressing a single motion event is a motion verb meaning 'leave, get away from'. I regard *càak* in this example and in (5) as a verb, but not as a preposition, for it may or may not take a noun phrase (e.g., *kradòot khûn càak klɔ̀ɔŋ paj* or *kradòot khûn càak paj*); if it is a preposition, it must take a noun phrase (see Section 4.1). However, I do not pretend that my analysis is totally convincing; in this study, I try to carefully account for the empirical data gathered thus far in order to prove that my analysis is at least as plausible as the others'.

manner verbs and typical path verbs (Zlatev and Yangklang 2004: 167–168).[9] This means that they deny the currently pervasive dichotomous view with respect to motion verbs (the view that divides motion verbs into two categories, i.e. path verbs and co-event verbs). I agree with them on the need to recognize more types of verbs. However, their classification of motion verbs is not precise enough to encompass the considerably complex system of Thai motion expressions (see Section 3.1).

There is another issue on which they hold a different opinion from me. They regard expressions ending with an arrival verb (such as *thǔŋ* 'reach, arrive' and *khâw* 'enter') as bi-clausal (Zlatev and Yangklang 2004: 164), but I consider such expressions to be mono-clausal (see Section 3.2).

2.1.3   *Kessakul (2005)*

Kessakul (2005) is the most in-depth and wide-ranging study of Thai motion expressions. She collected motion expressions from speech-like narrative texts in seven chapters of a Thai translation of *Harry Potter and the Chamber of Secrets* (J. K. Rowling 1999 [Publishers: Scholastic], translated by Sumalee 2001 [Publishers: Nanmee Books]), and identified 'preferred patterns' of the expressions, as below (Kessakul 2005: 318, 359). Kessakul (2005) considers these patterns 'preferred' in terms of usage frequency.[10]

a. Preferred pattern for self-controlled and spontaneous motion:
    manner verb + path verb + deictic verb
b. Preferred pattern for caused motion:
    cause verb + path verb + deictic verb

A classification of motion verbs by Takahashi (2009c), which is the foundation of the analysis presented in this chapter, is similar to that by Kessakul (2005). However, the details of verb classes and the underlying structures of motion expressions that the two studies posit differ from each other. The most significant difference between them lies in their treatments of arrival verbs (e.g. *thǔŋ* 'reach, arrive', *hǎa* 'seek, approach and meet', *sùu* 'arrive and stay'). Kessakul's classification of motion verbs does not include a class of arrival verbs. She considers the path verbs *càak* 'leave, get away from' and *thǔŋ* 'reach, arrive', for example, as members of the same class,

---

9.   I do not share this view, however. In my opinion, manner verbs are syntactically and semantically distinguishable from path verbs, and so there is no need to set up a class of 'MP verbs'.

10.   To be specific, in Kessakul's (2005) data of self-controlled and spontaneous motion expressions, the serialization of a manner verb, a path verb, and a deictic verb (pattern a) appears with the highest frequency (51 types, 82 tokens); in her data of caused motion expressions, the serialization of a cause verb, a path verb, and a deictic verb (pattern b) occurs with the highest frequency (38 types, 48 tokens).

even though the two verbs occur at different syntactic positions in a mono-clausal motion expression. That is, when combined with a deictic verb (e.g. *paj* 'go'), *càak* 'leave, get away from' occurs before, while *thǔŋ* 'reach, arrive' occurs after, the deictic verb (*càak paj* 'leave, go'; *paj thǔŋ* 'go, arrive'). She neither mentions such irregular syntactic behavior of arrival verbs, nor posits that the event structure of Thai motion expressions subsumes the change (plus state) phase encoded by arrival verbs. In contrast, my classification of motion verbs includes a class of arrival verbs. On the basis of their syntactic behaviors and semantic properties I postulate that arrival verbs form an independent verb class that encodes the change (plus state) phase of the event structure.

2.2   Typical examples

As an initial illustration, several samples of Thai motion expressions are given in (1) to (5).

(1) *kháw   paj kruŋthêep*
     PRON[11] go Bangkok
     'He went to Bangkok.'

(2) *kháw khûn   bandaj paj chán bon*
     PRON ascend steps   go   upstairs
     'He went up the steps to the next floor up.'

(3) *lûuk pòoŋ <u>khoŋ</u>   lɔɔj   khûn paj càak klɔ̀ɔŋ*
     balloon   <u>probably</u> float ascend go   from box
     'The balloon probably went floating up from the box.'

(4) *kháw plɔ̀j   lûuk pòoŋ khûn   paj <u>lɛ́ɛw</u>*
     PRON release balloon   ascend go PFV
     'He has released the balloon up away.'

(5) *<u>mûa kîi níi</u>   kháw plɔ̀j   lûuk pòoŋ lɔɔj càak klɔ̀ɔŋ   khûn paj*
     <u>a.short.while.ago</u> PRON release balloon   float leave box   ascend go
     chon   pheedaan
     bump ceiling
     'He released the balloon, which floated up from the box and bumped on the ceiling, just now.'

---

11. The pronoun system of Thai has not been entrenched as a fixed paradigm. The pronoun *kháw*, for example, does not specify its number, gender, and grammatical relations to other constituents of a clause. Sometimes it is also ambiguous between the third and the first person. It can be translated multiply into English unless the context is clear. In this chapter I use the plain gloss 'PRON (= pronoun)' and translate each pronoun in a default-like manner.

Examples (1) and (2) express a self-controlled motion (an animate being's relocation); Example (3) a spontaneous motion (an inanimate being's relocation); and Examples (4) and (5) a caused motion (an inanimate being's relocation caused by an animate being). These motion expressions are all mono-clausal. Thai single clauses may consist of only one verb phrase, e.g. (1), or of more than one verb phrase, e.g. (2)–(5). In addition, if a clause contains path prepositional phrases besides motion verb phrases, the prepositional phrases follow the verb phrases, e.g. (3).[12] They are more or less independent structures for each predicate with a high degree of pragmatic assertiveness and structural coherence. The structures' high degrees of assertiveness and coherence are verified by the fact that when a modal marker (e.g. *khoŋ* 'probably' in (3)), an aspectual marker (e.g. *lɛ́ɛw* 'PFV' in (4)), or a time-positional adverbial (e.g. *mûa kîi níi* 'a short while ago' in (5)) is included in the structure, the whole structure is under the scope of its modification (unless there is a pause between adjacent verb phrases).

Apart from manner verbs that normally take only a noun phrase representing a self-controlled or spontaneous mover, motion verbs in Thai are capable of taking other noun phrases to explicitly name a reference point for determining a path or an entity moved by some external force. The verbs *paj* 'go' in (1) and (2) and *chon* 'bump' in (5) take a goal noun phrase; the verb *khûn* 'ascend' in (2) takes a route noun phrase; the verb *càak* 'leave, get away from' in (5) takes a source noun phrase; and the verb *plɔ̀j* 'release' in (4) and (5) takes a noun phrase for the entity set in motion. Verbs co-occurring in a motion expression represent sub-events (or semantic components) of the whole motion event denoted by the expression. For instance, the three verbs in (3) specify the following three types of motion sub-events (or motion components) viewed in different perspectives: (i) the manner of motion (*lɔɔj* 'float'), (ii) the path of motion (*khûn* 'ascend'), and (iii) the relative relation between the mover and the deictic center that is typically the speaker's vantage point (*paj* 'go').[13]

---

12. Notice that *càak klɔ̀ɔŋ* in (3) is a prepositional phrase meaning 'from the box', while in (5) it is a verb phrase meaning 'to get away from the box'. See Section 4.1 for discussions on the differences between the two.

13. A motion event can be described differently depending on the speaker's perspective in viewing it and the construal of it, as well as other pragmatic factors. The motion event in (3) can be described from an alternative perspective, e.g., 'It went up slowly'; 'It floated away'; 'He released it from the box'; and so forth. Thus, the speaker's perspective and construal would determine which motion sub-events (motion components) constitute the motion event in question. In other words, the types and number of sub-events that constitute the event in question would hinge on the speaker's perspective and construal at the time of speaking (see Section 3.2).

Endorsing Bohnemeyer et al.'s (2007) idea of the 'macro-event property',[14] I consider Thai motion expressions such as (1)–(5) to be constructions with the macro-event property. The term 'macro-event' in Bohnemeyer et al.'s sense is different from Talmy's (1991, 2000) notion of macro-event (see footnote 1). In Bohnemeyer et al. (2007: 497, 524), macro-event expressions present a single event in terms of a unique initial and/or terminal boundary, a unique duration, and a unique position on the time line. A piece of evidence in support of this view is as follows. If a time-positional modifier occurs at the beginning or the end of expressions like (1) to (5) (and no pause is made mid-clause), the expressions are understood to denote a single motion event (i.e. a motion macro-event). As demonstrated in (6) and (7), a single event reading is much more pertinent to a usual, natural motion event than a two- or three-event reading.

(6) <u>*thîaŋ*</u>   *kháw wîŋ khûn   maa   chán bon*
at.noon PRON run ascend come upstairs
'At noon he came upstairs running.'   [single event reading]
??'At noon he ran (and then he) came upstairs.'   [two-event reading]
??'At noon he ran (and then he walked) up (and then he) came upstairs.'
[three-event reading]

(7) *kháw wîŋ khûn   maa   chán bon <u>thîaŋ</u>*
PRON run ascend come upstairs   at.noon
'He came upstairs running at noon.'   [single event reading]
??'He ran (and then he) came upstairs at noon.'   [two-event reading]
??'He ran (and then he walked) up (and then he) came upstairs at noon.'
[three-event reading]

Thai speakers largely express motion macro-events with a single clause, but they sometimes use macro-event expressions consisting of more than one clause, especially in written discourses. The co-occurring two or more clauses depict concurrent or concatenated events that are independent of, albeit closely related to, each other. Consider the bi-clausal expressions (8) and (9).

(8) *phûan dəən loŋ   bandaj maa hăa   phŏm*
friend   walk descend steps   come approach.and.meet PRON
<u>*phlaaŋ*</u>   *thák phŏm*
at.the.same.time greet PRON
'(My) friend came down the steps to me walking, simultaneously greeting me.'

---

14. According to Bohnemeyer and Van Valin (2017) and in the Role and Reference Grammar's terms (Van Valin 2005), constructions with the macro-event property usually have a single verbal core, which consists of the nucleus and its arguments, but can have multiple verbal cores that together behave like a single core, if they are integrated by a cosubordinate nexus.

(9) *phûan plɔ̀j   lûuk pòoŋ <u>hâj</u>   man khûn paj chon pheedaan*
     friend   release balloon   IRR.COMP PRON ascend go bump ceiling
     '(My) friend released the balloon for it to float up and bump on the ceiling.'

In (8), the friend's approaching the speaker (motion event) and greeting the speaker (communication event) are, respectively, described with the former and the latter clauses linked by the temporal adverbial *phlaaŋ* 'at the same time' indicating the simultaneity of the two events. In (9), the former main clause represents the action event of the friend letting the balloon go, while the latter subordinate clause led by the irrealis complementizer *hâj* 'IRR.COMP' signifies the friend's intention in releasing the balloon, i.e. for the balloon to float up and bump on the ceiling. Note that (9) is not a motion expression proper, since what the main clause designates is the friend's action but not the balloon's motion. Compared with mono-clausal expressions, e.g. (1) to (7), bi- or multi-clausal expressions, e.g. (8) and (9), are not frequently used to encode a plain event of motion in Thai. This chapter exclusively examines mono-clausal expressions of motion macro-events.

3. Syntactic and semantic structures of Thai motion expressions

3.1 Thai verbs of motion

Verbs used in Thai motion expressions (motion verbs and change-of-state verbs) can be classified into six main classes – namely, cause verbs, manner verbs, punctual path verbs, durative path verbs, deictic verbs, and arrival verbs – based on: (i) types of event structure represented by syntactic patterns of the expressions (i.e. combinations of causation, process, and change (plus state) phases) and (ii) types of lexical aspect or *aktionsart* denoted by the verbs (i.e. activity, achievement, accomplishment, resultative (achievement plus state), and neutral types) (cf. Table 1). What is important is that the path of motion verbalized by Thai speakers comprises the process phase and/or the change (plus state) phase of the event structure that one or more path verbs represent. It is also important that different characteristics of the path are reflected in different aspectual types of path verbs.

Representative members of each verb class are listed in (10)–(15). The short glosses for the verbs listed may be misleading. In fact, many of the verbs are neutral in terms of the animacy or agentivity (intentionality and volitionality) of the moving entity and/or the motion-initiator. Generally, a motion verb's agentivity value is indeterminate as long as its argument structure in usage and its discourse context are unknown. Path verbs and deictic verbs in Thai can be used to express both an intentional and volitional motion (i.e. an animate being's self-controlled motion) and a non-intentional and non-volitional motion (i.e. an animate or inanimate

being's spontaneous motion). The achievement path verb *càak* 'leave, get away from' and the deictic verb *paj* 'go', for instance, may encode a self-controlled motion (e.g., *kháw càak paj* 'He left') or a spontaneous motion (e.g., *thɔ́ɔŋ fáa mâj khəəj càak paj nǎj* 'The sky never went anywhere'). The same applies to some manner verbs and some cause verbs in Thai. For example, the manner verb *dəən* 'walk' may express a self-controlled motion (e.g., *chán dəən* 'I walked') or a spontaneous motion (e.g., *khěm naalikaa dəən* 'The hand of the watch was going'), and the cause verb *thíŋ* 'throw away, drop' can represent not only an intentional and volitional causation (e.g., *chán thíŋ khayàʔ* 'I dropped off my trash') but also a non-intentional and non-volitional causation (e.g., *tôn thíŋ baj* 'The tree shed its leaves').

We may also note that six common motion verbs – namely, *khâw* 'move more and more inside, enter', *ʔɔ̀ɔk* 'move more and more outside, exit', *khûn* 'ascend', *loŋ* 'descend', *paj* 'go', and *maa* 'come', which are often called 'versatile' motion verbs (cf. Matisoff 1973; see Section 4.2) – are neutral in lexical aspect. For the sake of convenience, however, they are each categorized as more than one type in the list below. This might lead to a misunderstanding that they are polysemous. The reality is that without the discourse context, these verbs are uncertain in aspectual meaning. By appearing in a specific syntactic position, they are interpreted as expressing a particular lexical aspect. The verb *khâw* 'move more and more inside, enter' may be taken either as a durative path verb (13) (to travel along a route crossing a boundary into an enclosed space) or as an achievement terminative path verb (15aA) (to cross a boundary into an enclosed space) (Takahashi 2009c).[15] Likewise, the verbs *ʔɔ̀ɔk* 'move more and more outside, exit', *khûn* 'ascend', and *loŋ* 'descend' may be interpreted either as punctual path verbs (12) (to start moving outward, upward, or downward) or durative path verbs (13) (to travel along a route crossing a boundary

---

15. For further clarification, compare the two contrastive examples below.

  (i) *lûuk bɔɔn klîŋ <u>khâw</u> paj naj koo*
        ball   roll <u>enter</u> go in goal
        'The ball went into the goal, rolling.'

  (ii) *lûuk bɔɔn klîŋ paj <u>khâw</u> naj koo*
         ball   roll go <u>enter</u> in goal
         'The ball went into the goal, rolling.'

Examples (i) and (ii) exemplify, respectively, a durative reading and a punctual reading of the verb *khâw* 'move more and more inside, enter'. The former durative path concept concerns the ball's continuous movement in an inward direction, while the latter punctual path concept is pertinent to the ball's final inward motion that instantly delimits its relocation. We may say the following. In (i), all three verbs (*klîŋ, khâw*, and *paj*) describe the whole relocation path. In (ii), on the other hand, the first two verbs (*klîŋ* and *paj*) express the whole relocation path while the last verb (*khâw*) denotes the terminative path.

out of an enclosed space, to travel upward along a route, or to travel downward along a route) (Takahashi 2018b). Furthermore, the deictic verbs *paj* 'go' and *maa* 'come' (14) do not have any typical lexical aspects, and therefore they can be used either as durative or punctual verbs.

(10) Cause verbs
    a. activity
        khǒn 'load, transport, carry', *cuuŋ* 'pull, lead by hand', *nam* 'lead, carry', *phaa* 'guide someone', *lâak* 'drag', *ʔaw* 'take'[16]
    b. achievement
        phlàk 'give a push', *dìit* 'flick', *tèʔ* 'kick', *lûan* 'slide (vt.)', *yoon* 'throw, toss', *paa* 'throw, hurl', *khwâaŋ* 'throw, fling', *thíŋ* 'throw away, drop', *phát* 'blow', *plòj* 'release, let go'
    c. accomplishment
        waaŋ 'manually place', *yìp* 'pick', *yók* 'lift', *sàj* 'manually put in', *duŋ* 'pull', *chùt* 'pull', *krachâak* 'jerk', *ʔaw* 'take, seize, grasp'

(11) Manner verbs
    klîŋ 'roll', *khlaan* 'crawl', *khûɯp* 'move inch by inch, creep', *dəən* 'walk', *bin* 'fly', *lɔɔj* 'float', *wîŋ* 'run', *lǎj* 'flow, glide', *kâaw* 'step', *kraden* 'hurtle', *tàj* 'clamber', *thalák* 'spurt out', *phèn* 'rush out of', *phûŋ* 'spout', *traween* 'wander', *bùŋ* 'speed', *fàa* 'break through', *hɛ̀ɛ* 'parade', *dândôn* 'make one's way through', *lúaj* 'ramble', *trèe* 'stroll', *yɔ̂ŋ* 'tiptoe', *pliw* 'flutter'

(12) Punctual path verbs[17]
    a. inceptive
        rûaŋ 'drop off', *tòk* 'fall off', *yɔ́ɔn* 'turn back', *thǒj* 'start to move backward, recede', *càak* 'leave, get away from', *ʔɔ̀ɔk* 'start to exit', *khûn* 'start to ascend', *loŋ* 'start to descend'
    b. prestadial
        lòn 'drop onto', *com* 'sink onto'

---

16. The verb *ʔaw* 'take' may be used as an activity cause verb (10a) meaning 'to take something to a place' or an accomplishment cause verb (10c) meaning 'to take hold of something and draw it near to oneself '.

17. Some of the glosses given to the punctual path verbs here may seem strange (e.g. 'start to move backward'). Those verbs cannot be straightforwardly translated into English, because there are no corresponding English verbs. In general, the categorization of lexical aspects of verbs in a language is conventional. Put differently, such categorization hinges upon the language speakers' conventional construals of events.

(13)   Durative (accomplishment) path verbs
khâw 'move more and more inside, enter', *ʔɔ̀ɔk* 'move more and more outside, exit', *khûn* 'ascend', *loŋ* 'descend', *klàp* 'return', *khâam* 'cross, pass over', *phàan* 'pass through, pass by', *phón* 'pass, escape', *lɔ̂ɔt* 'pass through, move under', *lát* 'cut across', *lám* 'move off a boundary', *ləəj* 'move beyond', *sǔan* 'pass each other', *ʔɔ̂ɔm* 'take a roundabout way', *taam* 'follow', *lîap* 'move along, skirt, hug', *won* 'circle'[18]

(14)   Deictic verbs
paj 'go', *maa* 'come'

(15)   Arrival verbs
    a.   terminative path verbs
        A.   achievement
            thǔŋ 'reach, arrive', *khâw* 'enter', *chon* 'bump', *tɔ̂ŋ* 'meet', *thùuk* 'touch', *doon* 'hit', *patháʔ* 'collide', *krathóp* 'strike against'
        B.   accomplishment
            hǎa 'seek, approach and meet'
        C.   resultative
            yùt 'halt, stop and stay', *sùu* 'arrive and stay', *càp* 'catch and hold', *thâap* 'lie flat against, cover'
    b.   change-of-state verbs
        A.   achievement
            tɛ̀ɛk 'break', *phaŋ* 'tumble down, fall to the ground'
        B.   resultative
            kɔɔŋ 'pile up, stack up', *pen pùk* 'form a compact mass'

Change-of-state verbs (15b), such as *tɛ̀ɛk* 'break' and *kɔɔŋ* 'pile up, stack up', are not motion verbs. They alone do not represent motion in the proper sense (i.e. change in place or position).

    One may wonder how punctual path verbs (12) (e.g. *yɔ́ɔn* 'turn back') and durative path verbs (13) (e.g. *phàan* 'pass') are distinguishable. Though both are path verbs that describe an event of motion with some path information, they differ in terms of the aspectual types of motion they represent. More precisely, motion events described by the former path verbs and those by the latter path verbs differ in terms of the necessary time span for the event in question to be

---

18. The verb *won* 'circle' may be used as a manner (activity) verb (11) meaning 'to continuously move in a circle' or as a durative (accomplishment) path verb (13) meaning 'to circle around and get back to the original place' (Takahashi 2020).

realized. The definitions of punctual path verbs and durative path verbs from this viewpoint are as follows.

Punctual path verbs are defined as verbs that denote an event of motion along a path relative to the starting point or the endpoint. The realization of such a motion event entails an 'achievement' aspect in Vendler's (1967) terminology that can be characterized by the distinctive features of [dynamic, punctual, bounded]. It is either inceptive or prestadial. The term 'prestadial' is taken from Bisang (2003: 48), and means 'the situation before the terminal boundary highlighted'.[19] Punctual path verbs of the inceptive type (12a) include *càak* 'leave, get away from' and *rûaŋ* 'drop off' and those of the prestadial type (12b) include *lòn* 'drop onto' and *com* 'sink onto'. Punctual path verbs represent a punctual motion event, and so they cannot take an adverbial indicating duration of motion on their own (e.g., *cɛɛnkan tòk* (**sɔ̌ɔŋ wínaathii*) 'The vase <u>fell off</u> (*for two seconds)') except in cases in which an iterative reading is possible (e.g., *fǒn tòk sɔ̌ɔŋ chûa mooŋ* 'The rain <u>fell</u> for two hours; It rained for two hours'). Last, some of the 'Manner + Path (MP) verbs' posited by Zlatev and David (2003: 34) and Zlatev and Yangklang (2004: 178) (e.g. *tòk* 'fall off', *rûaŋ* 'drop off', *lòn* 'drop onto', *com* 'sink onto') belong to my category of punctual path verbs. Unlike their classification of Thai motion verbs, my classification is based on the aspectual properties of the verbs.

Durative path verbs are defined as verbs that denote an event of motion along a path relative to the passage or a path arising from interaction with a reference entity other than the source and the goal. The aspectual category of such a motion event falls into 'accomplishment' in Vendler's (1967) terminology that can be characterized by the distinctive features of [dynamic, durative, bounded]. Accomplishment path verbs (13) include *klàp* 'return' and *khâam* 'cross, pass over'. With the perfective marker *lɛ́ɛw* 'PFV', an accomplishment path verb (e.g. *khâam* 'cross, pass over') must have a completive reading (e.g., *kháw khâam mêɛ nám lɛ́ɛw* 'He has <u>crossed</u> the river') and cannot have an inceptive reading. It is likely that due to the salient terminal boundary of an accomplishment motion event (e.g. crossing a river), the terminal boundary, rather than the initial boundary, comes into focus in a perfective description of the event. In contrast, when the perfective marker follows a manner verb (e.g. *wîŋ* 'run'), the perfective motion event described is either completive or inceptive (e.g., *kháw wîŋ maaraathɔɔn lɛ́ɛw* 'He has <u>run</u> the marathon race' or 'He has begun to <u>run</u> the marathon race'). As a motion event of the activity type with the distinctive features of [dynamic, durative, unbounded]

---

19. Put more simply, inceptive path verbs denote punctual (non-durative) motion away from a starting point, and prestadial path verbs denote punctual motion to an endpoint. These are aspectual construals of motion events by Thai speakers.

(e.g. running a marathon race) does not entail any salient boundary in the event, either the terminal or the initial boundary of the event can be highlighted.

It is interesting to note that terminative path verbs (15a) subsume achievement, accomplishment, and resultative[20] verbs. These terminative path verbs all depict the end of translocation, that is, an arrival or stopping at a goal. The arrival or stopping event may be of the achievement type (e.g. arriving), of the accomplishment type (e.g. approaching and meeting), or of the resultative type (e.g. stopping and staying).

3.2   Syntactic patterns of Thai motion expressions

(16) and (17) show the syntactic patterns of macro-event expressions for self-controlled and spontaneous motion and for caused motion, respectively.

(16)   Patterns for self-controlled and spontaneous motion
  a.   Frequently used[21]
       $_{process}$[manner verb, durative path verb, deictic verb], e.g. (18)
  b.   Maximum
       $_{process}$[manner verb$^{\sharp}$,[22] punctual path verb$^{\sharp}$, durative path verb$^{\sharp}$, deictic verb] $_{change\ (+state)}$[arrival verb], e.g. (19)

(17)   Patterns for caused motion
  a.   Frequently used
       $_{causation}$[cause verb] $_{process}$[durative path verb, deictic verb], e.g. (21)
  b.   Minimum
       $_{causation}$[cause verb] $_{process}$[durative path verb]
       $_{causation}$[cause verb] $_{process}$[deictic verb], e.g. (20)
  c.   Maximum
       $_{causation}$[cause verb$^{\sharp}$] $_{process}$[manner verb$^{\sharp}$, punctual path verb$^{\sharp}$, durative path verb$^{\sharp}$, deictic verb] $_{change\ (+state)}$[arrival verb], e.g. (5), (22), and (53)

---

20. The resultative aspect is a synthesis of (i) the achievement aspect with the distinctive features of [dynamic, punctual, bounded] and (ii) the state aspect with the distinctive features of [static, durative, unbounded].

21. The 'frequently used pattern' corresponds to Kessakul's (2005) 'preferred pattern'. Thai native-speaker participants in Experiments A, B and C (see footnote 2) most frequently used this pattern in their responses.

22. The sharp ($^{\sharp}$) means that one or more verbs of the type may appear.

Drawing on the theoretical notions in the semantic category of 'force dynamics' (Talmy 1988, 2000a: 409–470), the three phases included in the event structure of Thai motion expressions – viz. causation, process, and change (plus state) phases – are roughly rendered as the following. The causation phase is the phase in which a stronger Antagonist impinges on an Agonist so that the Agonist starts to move (in other words, a causer triggers a translocation of a mover). The process phase is the phase during which the Agonist's motion lasts (that is, the mover moves along a path). Finally, the change (plus state) phase is the phase in which the Agonist's motion changes into rest (to be precise, the mover stops at a goal and may stay there for a while).

The frequently used pattern for self-controlled and spontaneous motion (16a) profiles the process phase; the maximum pattern (16b) profiles the process and the change (plus state) phases. The frequently-used and minimum patterns for caused motion (17a) and (17b) profile the causation and the process phases; the maximum pattern (17c) profiles all of the causation, the process, and the change (plus state) phases. Notice that the combination of the causation phase and the change (plus state) phase fails to form the event structure of a motion macro-event. Without the process phase as an intervenient, the two phases cannot constitute a well-formed event structure.

The frequently used pattern for self-controlled and spontaneous motion (16a) comprises three types of verbs: manner verb, durative path verb, and deictic verb, e.g. (18). The maximum pattern (16b) contains five different types of verbs: manner verb, punctual path verb, durative path verb, deictic verb, and arrival verb, e.g. (19).

(18) *lûuk pòoŋ lɔɔj   khûn   paj*
      balloon   float ascend go
      'The balloon went up floating.'

(19) *lûuk pòoŋ lɔɔj càak klɔ̀ɔŋ   khûn   paj chon   pheedaan*
      balloon   float leave box   ascend go bump   ceiling
      'The balloon floated up from the box and bumped on the ceiling.'

The minimum pattern for self-controlled and spontaneous motion requires only one manner verb, one punctual path verb, one durative path verb, one deictic verb, or one arrival verb. In contrast, to express caused motion, one cause verb must be combined with at least one durative path verb or one deictic verb, as indicated in (17b), e.g. (20).[23] The frequently used pattern for caused motion (17a) includes three types of verbs: cause verb, durative path verb, and deictic verb, e.g. (21). The

---

23. There is an exceptional case: an accomplishment cause verb may be followed by an arrival verb without a durative path or deictic verb intervening between the two. See discussions below for details.

maximum pattern (17c) has six verb slots, and a maximum of six types of verbs may co-occur: cause verb, manner verb, punctual path verb, durative path verb, deictic verb, and arrival verb, e.g. (22). When all six types of verbs co-occur, their linear order is that indicated in (17c) (and Table 2).

(20) *kháw plɔ̀j   lûuk pòoŋ paj*
PRON release balloon   go
'He released the balloon away.'

(21) *kháw plɔ̀j   lûuk pòoŋ khûun   paj*
PRON release balloon   ascend go
'He released the balloon up and away.'

(22) *cháaŋ   dan rót lǎj   thǒj   klàp   paj cɔ̀ɔt   naj ʔùu*
elephant push car glide recede return go stop   in garage
'The elephant pushed the car, which glided back and stopped in the garage.'

One may wonder why an arrival verb (e.g. *chon* 'bump' in (19), *cɔ̀ɔt* 'stop' in (22)) is part of a serial verb phrase construction for a motion macro-event. To put it another way, one may wonder why it forms the final verb phrase of a clause, rather than a separate clause. Recall that, as shown in (5), when a motion macro-event expression including the arrival phase contains a modal, aspectual, or time-positional modifier, the scope of the modification covers all the constituent verb phrases. (23), (24) and (25) are additional examples.

(23) *lûuk pòoŋ <u>mâj dâj</u>[24] lɔɔj   khûun paj chon   pheedaan*
balloon   NEG.REAL float ascend go bump ceiling
'The event that the balloon floats up and bumps on the ceiling is not realized.'

(24) *lûuk pòoŋ <u>khoŋ</u>   lɔɔj   khûun paj chon   pheedaan <u>lɛ́ɛw</u>*
balloon   probably float ascend go bump ceiling   PFV
'Probably the balloon has floated up and bumped on the ceiling.'

(25) *<u>mûa kîi níi</u>   kháw <u>khoŋ</u>   plɔ̀j   lûuk pòoŋ lɔɔj   khûun paj*
a.short.while.ago PRON probably release balloon   float ascend go
chon   pheedaan
bump ceiling
'Probably he released the balloon, which floated up and bumped on the ceiling, just now.'

---

24. I consider the lexical item *mâj dâj* to be a modal marker, or more specifically, the negative realization marker. The affirmative realization marker (*dâj*) and the negative realization marker (*mâj dâj* or *míʔ dâj*) express the modal meanings that 'a situation is realized' and that 'a situation is not realized', respectively. Expressions with such a realization-related marker have the connotation that 'the described emerging (or not emerging) situation is a desirable or expected one' (Takahashi 2008: 126).

These sentences are taken as representing a single motion macro-event. It follows that they are an ordinary type of Thai expressions of motion macro-events, and that the change (plus state) phase expressed by an arrival verb is not an irregular portion of a motion macro-event.

Takahashi (2009c: 182) claimed that an arrival verb is a constituent of a single clause for motion macro-events, relying on the fact that, as exemplified in (26), an allative prepositional phrase (*yaŋ thâa rɯa plaay thaaŋ* 'to the final stopping port') can occur after an arrival verb (*thǔuŋ* 'reach, arrive') and would then indicate a goal place at which the moving entity arrives after translocation (the final stopping port at which the ferry arrived after traveling across).

(26) *fəərîi   dəən thaaŋ   khâam maa   thǔuŋ   yaŋ   thâa rɯa plaaj thaaŋ*
      ferry   travel   cross come arrive <u>to</u>   the.final.stopping.port
      'The ferry came across, traveling, and arrived at the final stopping port.'

This word order is in accordance with a syntactic principle of Thai grammar, namely, in a clause containing a verb phrase (or a series of verb phrases) and a path prepositional phrase, the prepositional phrase follows the verb phrase(s) expressing a single event. However, like noun phrases, a prepositional phrase can appear as the topic phrase at the beginning of the clause containing it (see (40)–(42)).

It is noteworthy that a cause verb and a manner verb can co-occur in a clause expressing a motion macro-event, e.g. (27) and (28), because, as shown in (17c), different syntactic slots are provided for them.

(27) *phûan   <u>plɔ̀j</u>   lûuk pòoŋ   <u>lɔɔj</u>   khûn   paj*
      friend <u>release</u> balloon   <u>float</u> ascend go
      '(My) friend released the balloon up away floating.'

(28) *cháaŋ   <u>dan</u>   rót   <u>lăj</u>   thɔ̆j   klàp   paj*
      elephant <u>push</u> car <u>glide</u> recede return go
      'The elephant pushed the car, which glided back away.'

The causation phase of (27) is punctual and bounded, and it is denoted by the achievement cause verb *plɔ̀j* 'release'. In this ballistic caused motion event, the friend releasing the balloon does not change his position; only the balloon does. In contrast, the causation phase of (28) is durative and unbounded, and it is represented by the activity cause verb *dan* 'push'. In this co-motional caused motion event, not only does the car change its position but so does the elephant pushing it. The elephant is the motion-initiator and the mover at the same time. At any rate, in both (27) and (28), a manner verb follows a cause verb.

It should also be noted that more than one cause verb, more than one manner verb, more than one punctual path verb, and more than one durative path

verb can each occur in a Thai expression of a motion macro-event, e.g. (29)–
(32). Example (29) includes two cause verbs (*ʔaw* 'take, seize, grasp', *sàj* 'put in');
Example (30) two manner verbs (*dəən* 'walk', *fàa* 'break through'); Example (31)
two punctual path verbs (*rûaŋ* 'drop off', *lòn* 'drop onto'); and Example (32) two
durative path verbs (*lɔ̂ɔt* 'pass through', *khâw* 'move more and more inside, enter').

> (29) *kháw ʔaw náŋsɯ̌ɯ sàj   loŋ   paj naj krapǎw*
>   PRON take book   put.in descend go in bag
>   'He took the book and put it into the bag.'

> (30) *kháw dəən fàa   fǒn klàp maa*
>   PRON walk break.through rain return come
>   'He came back walking and forcing his way through the rain.'

> (31) *lom phát dɔ̀ɔk máy rûaŋ   lòn   loŋ   bon phɯ́ɯn*
>   wind blow blossom   drop.off drop.onto descend on the.ground
>   'The wind blew the blossoms, which fell off down onto the ground.'

> (32) *kháw tèʔ fút bɔɔn lɔ̂ɔt   tây máa nâŋ khâw paj naj koo*
>   PRON kick soccer.ball pass.through below bench enter go in goal
>   'He kicked the soccer ball, which passed through under the bench into the goal.'

In (31), *lòn* 'drop onto' which indicates the endpoint of a path (punctual, prestadial
path verb) precedes *loŋ* 'descend' which signifies the whole path (durative path
verb). This ordering (*lòn loŋ*) is good evidence that a strict iconicity-based rule
on the formation of serial verbs for motion components is not tenable. Without
assuming lexical-aspectual classes of Thai motion verbs, we cannot explicate the
whole picture of the verbs' order restrictions. The verb classes that are based on
their lexical aspect types are thus crucial for the syntactic system of Thai motion
expressions. Having said that, I would like to emphasize that 'iconicity' in itself is
a reasonable and useful notion. In fact, the ordering among punctual path verbs
co-occurring in a single clause reflects 'diagrammatic iconicity', that is, a system-
atic arrangement of signs (two types of punctual path verbs in series), none of
which necessarily resembles its referent (corresponding punctual motion events),
but whose relationships to each other (the order of the verbs) mirror the relation-
ships of their referents (the order of the events) (cf. Haiman 1980: 515). As such,
the two punctual path verbs in (31) (the inceptive path verb *rûaŋ* 'drop off' and
the prestadial path verb *lòn* 'drop onto') are usually serialized as *rûaŋ lòn* (but not
lòn rûaŋ). What is more, the restriction that an activity or achievement cause verb
cannot be directly followed by an arrival verb (see explanations below Table 1) is
also attributable to the principles of diagrammatic iconicity: The linear order of
verbs mirrors that of events denoted by the verbs. The event structure shown in
Table 1 partially, if not totally, reflects people's experiences of actual motion events.

The use of more than one cause, manner, punctual path, or durative path verb in a Thai expression of motion macro-event is not uncommon, because the components 'the cause of motion', 'the manner of motion', 'the inceptive or prestadial aspect of motion', and 'the durative aspect of motion' can be richly described from more than one perspective. Put differently, they may be multi-dimensionally described. By contrast, only one deictic verb and only one arrival verb can appear in each expression, because only one value of the components 'the relative relation between the mover and the deictic center' and 'the completion of motion' can be specified for a single motion event. One exception is the combination of the two deictic verbs, *paj* 'go' plus *maa* 'come', which may be added to motion verb(s) to idiomatically signify moving back and forth in a more or less confined space, as in (33).

(33)   *kháw dəən won wian paj maa*
       PRON walk circle   go   come
       'He walked back and forth from one place to another.'

In sum, Thai motion verbs in series can express as many as six main components for motion macro-events: (i) cause, (ii) manner, (iii) punctual path, (iv) durative path, (v) deixis, and (vi) arrival. As Table 1 indicates, the cause component includes the activity cause (e.g. carrying), the achievement cause (e.g. throwing), and the accomplishment cause (e.g. placing). The punctual path component encompasses the inceptive path (e.g. dropping off) and the prestadial path (e.g. dropping onto). The durative path component comprises the accomplishment path (e.g. crossing). The arrival component embraces the terminative path and the change of state. The terminative path, in turn, subsumes the achievement terminative path (e.g. arriving), the accomplishment terminative path (e.g. approaching), and the resultative terminative path (e.g. stopping). The change of state subsumes the achievement change (e.g. becoming broken) and the resultative change (e.g. piling up).

Table 1. Types of motion components and their aspectual categories

Types of motion components		Types of aspect
a. Causation phase		
(i) cause	activity cause	activity
	achievement cause	achievement
	accomplishment cause	accomplishment
b. Process phase (= translocation phase)		
(ii) manner		activity
(iii) punctual path	inceptive path	achievement
	prestadial path	achievement
(iv) durative path	accomplishment path	accomplishment
(v) deixis (deictic path, reference-point-particular path)		neutral in aspect

(*continued*)

Table 1. (*continued*)

Types of motion components		Types of aspect
c. Change (+State) phase		
(vi) arrival		
terminative path	achievement terminative path	achievement
	accomplishment terminative path	accomplishment
	resultative terminative path	resultative
change of state	achievement change	achievement
	resultative change	resultative

In terms of the event structure of motion macro-events, (i) the cause compo-nent constitutes (a) the causation phase; (ii) the manner, (iii) the punctual path, (iv) the durative path, and (v) the deixis components constitute (b) the process (or translocation) phase; and (vi) the arrival component constitutes (c) the change or change plus state phase. A caveat is in order here. Although the accomplishment cause is listed only in the column of (a) the causation phase for convenience's sake, it actually refers not only to (a) the causation phase but also to (b) the process phase. An accomplishment cause verb phrase, unlike an activity or achievement cause verb phrase, may immediately precede an arrival verb phrase (e.g., *kháw* {*waaŋ* / **yoon*} *phâa thâap bon tóʔ* 'He {placed / *threw} the cloth which covered the table'). Such a macro-event expression consisting of an accomplishment cause verb (e.g. *waaŋ* 'place, put') and an arrival verb (e.g. *thâap* 'lie flat against, cover') dispenses with a verb referring to the process phase, because the accomplishment cause verb involves not merely the causation phase (e.g. bringing about an entity's motion, such as causing a cloth's relocation) but also the process phase (e.g. making an entity under control continuously relocate until reaching a goal, such as putting a cloth over a table). In spite of that, syntactic patterns for caused motion preferably contain verb(s) for the process phase (e.g. *loŋ* 'descend') that explicitly express motion along a certain path in a certain direction (e.g., *kháw waaŋ phâa loŋ thâap bon tóʔ* 'He placed the cloth down over the table').

The point is that the aspectual values of motion components indicated in Table 1 have to do with the classification of Thai motion verbs. Takahashi (2009b: 42) sug-gested that an adequate description of Thai basic clausal patterns for encoding a single motion macro-event should be in the form of aspect-type-specific construc-tions, since the aspectual restrictions imposed on those constructions are truly necessary conditions for the formation of Thai expressions of motion macro-events. (For more details, see the discussion in Section 3.3.)

As mentioned earlier in this section, Thai caused motion expressions must be composed of, at least, one cause verb and one durative path or deictic verb (with the exception of those with an accomplishment cause verb). The combination of a cause

verb and a punctual path verb, however, is unacceptable.[25] This is simply because durative path verbs are durative and deictic verbs are neutral in aspect and can be interpreted as durative, but punctual path verbs are by no means durative. Punctual path verbs designate the actuating or the pre-completing stage of translocation, such as dropping off and dropping onto, which is punctual. Punctual path verbs by themselves cannot properly express the whole course of translocation of a moved entity, which is the core meaning of caused motion expressions.

3.3 Acceptable vs. unacceptable linear order

The linear order of verbs encoding the six motion components is fixed, as shown in Table 2.

Table 2. The linear order of motion verbs

(i) cause verb	(ii) manner verb	(iii) punctual path verb	(iv) durative path verb	(v) deictic verb	(vi) arrival verb
e.g. *tèʔ* 'kick'	e.g. *klîŋ* 'roll'	e.g. *yɔ́ɔn* 'turn back'	e.g. *phàan* 'pass'	e.g. *maa* 'come'	e.g. *hǎa* 'approach and meet'

To express a single complex motion event with more than one type of motion verb, the verbs must be serialized in this order. A clause with verbs serialized in the wrong order cannot express a single motion event.

In Table 2, *yɔ́ɔn* 'turn back' is given as an example of a punctual (inceptive) path verb (iii), and *phàan* 'pass' as an example of a durative path verb (iv).[26] These two verbs occur in (34) and (35) below.

(34) *kháw tèʔ lûuk bɔɔn klîŋ phàan pratuu yɔ́ɔn   maa*
     PRON kick ball   roll pass   door turn.back come
     hǎa   raw
     approach.and.meet PRON
     'He kicked the ball, which passed through the door, rolling, (and then) turned back to us.'

---

25. While this is not acceptable for caused motion expressions proper, it is acceptable for expressions of cause-and-consequence events or so-called resultative events (e.g., *kháw tii kêɛw tòk* 'He hit the glass (and the glass) fell off').

26. As evidence, *yɔ́ɔn* 'turn back' is incompatible with a durative adverbial (e.g., *man yɔ́ɔn* (**sɔ̌ɔŋ wínaathii*) 'It turned back (*for two seconds)'), while *phàan* 'pass' is compatible with a durative adverbial (e.g., *man phàan sɔ̌ɔŋ naathii* 'It passed (through a certain space) for two minutes').

(35) *kháw tèʔ lûuk bɔɔn klîŋ <u>yɔ́ɔn</u>   <u>phàan</u> pratuu maa*
      PRON kick ball   roll <u>turn.back</u> <u>pass</u>   door   come
      hăa   raw
      approach.and.meet PRON
      'He kicked the ball, which came back through the door to us, rolling.'

In (34), the durative path verb *phàan* 'pass' precedes the punctual path verb *yɔ́ɔn* 'turn back' and therefore two separated, though continuing, routes (to pass through the door, rolling, and then come back toward us) are expressed. In this case, it makes more sense to put the perfective marker *lɛ́ɛw* between the two verbs *phàan* and *yɔ́ɔn* ([*klîŋ phàan pratuu*] *lɛ́ɛw* [*yɔ́ɔn maa hăa raw*]). To express a single motion event (to come back through the door toward us, rolling), the two verbs must be reversed, as in (35). If the two verbs *yɔ́ɔn* and *phàan* are of the same type, either of the two orders (*phàan yɔ́ɔn*, *yɔ́ɔn phàan*) would be acceptable as a macro-event expression. On this basis, it is reasonable to say that the two verbs encode different motion components. In Thai speakers' conceptualization, the punctual path is a motion component distinct from the durative path.[27]

To depict a mover's journey-like long translocation following a complicated route composed of two or more successive routes, one may multiply the unit for the process phase (consisting of manner, punctual path, durative path, and deictic components) by making some part of the unit recurrent (Kessakul 2005: 140–141, 147–156), e.g. (34). Kessakul is right in saying that:

> [T]he order of [motion verbs in] Thai SVC [i.e. serial verb phrase construction] only seems to be flexible because of the possible omission [of verbs for certain components depending on the speaker's window of attention] and the recurrence of a basic SVC schema [composed of manner verb, punctual path verb, durative path verb, and deictic verb].
> (Kessakul 2005: 151)

---

27. The following examples provide additional evidence that *yɔ́ɔn* and *phàan* have different lexical aspects.

(i) *kháw tèʔ lûuk bɔɔn <u>phàan</u> pratuu*
     PRON kick ball   <u>pass</u>   door
     'He kicked the ball, which passed through the door.'

(ii) *kháw tèʔ lûuk bɔɔn <u>yɔ́ɔn</u>*
     PRON kick ball   <u>turn.back</u>
     'He kicked the ball, which turned back.'

Both expressions sound a bit odd as they do not contain a deictic verb. Yet expression (i) is relatively more felicitous than expression (ii). This is because the durative path verb *phàan* in (i) expresses the kicked ball's relocation along a certain path (a proper caused motion), but the punctual path verb *yɔ́ɔn* in (ii) does not.

In addition, (36) serves as evidence to show that the terminative path should also be differentiated from the durative path. The sentence in (35) with the terminative path verb *hǎa* 'approach and meet' in the final position felicitously denotes a single motion macro-event. However, the expression in (36), where the terminative path verb is placed after the durative path verb *phàan* 'pass' and before the deictic verb *maa* 'come', is not acceptable. If the two verbs *phàan* and *hǎa* were in the same category, the ordering of the three verbs (*phàan hǎa maa*) in (36) would be acceptable as a macro-event expression.

(36) **kháw tèʔ lûuk bɔɔn klîŋ yɔ́ɔn phàan pratuu hǎa*
      PRON kick ball   roll turn.back pass door approach.and.meet
      raw maa
      PRON come
      (intended meaning) 'He kicked the ball, which came back through the door to us, rolling.'

The linear orders of motion verbs indicated in Table 3 are not acceptable as macro-event expressions. They all deviate from the right order, as given in Table 2: C + M + Pun + Dur + Dei + Ar.

Table 3. Examples of unacceptable orders of serial verbs for motion macro-event

a.	*	**Pun** + C + M + Dur + Dei + Ar	
b.	*	C + **Pun** + M + Dur + Dei + Ar	
c.	*	C + M + Dur + **Pun** + Dei + Ar	e.g. (34)
d.	*	C + M + Dur + Dei + **Pun** + Ar	
e.	*	C + M + Dur + Dei + Ar + **Pun**	
f.	*	**Ar** + C + M + Pun + Dur + Dei	
g.	*	C + **Ar** + M + Pun + Dur + Dei	
h.	*	C + M + **Ar** + Pun + Dur + Dei	
i.	*	C + M + Pun + **Ar** + Dur + Dei	
j.	*	C + M + Pun + Dur + **Ar** + Dei	e.g. (36)

Punctual path (Pun) verbs (e.g. *yɔ́ɔn* 'turn back') cannot precede cause (C) and manner (M) verbs (e.g. *tèʔ* 'kick' and *klîŋ* 'roll', respectively) and cannot follow durative path (Dur), deictic (Dei), and arrival (Ar) verbs (e.g. *phàan* 'pass', *maa* 'come', and *hǎa* 'approach and meet', respectively) in a motion macro-event clause, cf. (a)–(e) of Table 3. Arrival (Ar) verbs cannot precede any other verbs in a motion macro-event clause, cf. (f)–(j) of Table 3.

As such, the linear order of Thai verbs appearing in clauses expressing motion macro-events is fixed (Table 2). Nonetheless, there are various syntactic patterns for motion macro-events. Figuratively speaking, the pattern can become shortened

or expanded. Specifically, the six slots (i) to (vi) in the pattern may or may not be occupied by a verb and also more than one verb may occur in each of the slots (i) to (iv). It is also true that a verb of any type has the potential to become the initial verb in a clause because it is not obligatory that a verb of every type be present. However, a pair with a cause verb and a durative path or deictic verb – 'C +Dur' or 'C + Dei' – is indispensable to the expression of caused motion (with the exception of expressions including an accomplishment cause verb), and the initial verb in a caused motion expression is always a cause verb.

Hence, the structure of Thai expressions for motion macro-events is quite elastic and fluid. We therefore cannot posit generalized and fixed semantic categories for constituents of the expressions (such as 'V1: cause/manner verb' and 'V2: path verb') in Thai, unlike in languages like Mandarin Chinese (Lamarre 2007; Peyraube 2006; Talmy 2016, among others) and Japanese (Matsumoto 2018).

4.   The nature of path-related morphemes in Thai

4.1   Verbs vs. prepositions

The linear order given in Table 2 is based on an understanding of the distinction between verbs and prepositions, which is different from those of other analyses. My understanding is similar to that of Kessakul (2005: 108–118, 132–135, 156–158). She identified the basic unit for a motion macro-event in Thai as 'manner verb + directional verb + path verb[28] + deictic verb', and she categorized motion verbs that occur in an irregular position of the unit as path prepositions or aspectual/ modal markers. For example, *càak*, which as a verb means 'leave, get away from' (Kessakul's directional verb and my punctual path verb), occurs after the deictic verb phrase (*paj hɔ́kkaidoo* 'go to Hokkaido') in (37) and functions as an ablative preposition meaning 'from'.[29]

(37)   *kháw bin paj hɔ́kkaidoo càak tookiaw*
PRON fly go Hokkaido   from Tokyo
'He flew to Hokkaido from Tokyo.'

---

28. Directional verbs and path verbs in Kessakul's terms approximately correspond to my punctual path verbs and durative path verbs, respectively, in this chapter.

29. Clark (1975) referred to such case prepositions derived from verbs as 'coverbs'.

Path prepositions always take a reference-entity noun phrase (e.g. *bin paj càak (fly go <u>from</u>); *càak bin paj (<u>from</u> fly go)), while corresponding path verbs do not always do so (e.g. *bin càak paj* (fly <u>leave</u> go)) (Takahashi 2005: 115; 2017b: 49).

In a similar vein, Takahashi (2005: 116–117; 2009c: 189–190; 2017a: 136–138) proposed the following regarding the equivocal status of path prepositions in Thai. Thai prepositions for the endpoint of motion (viz. the allative preposition *yaŋ* 'to' and the comitative preposition *kàp* 'with') are prepositions proper. That is, they are no longer content words (verbs or nouns). However, Thai does not have prepositions proper for the starting point or the passing course of motion. In a simplex translocation expression, the punctual path verb *càak* 'leave, get away from' with a source noun phrase serves as an ablative preposition indicating the starting point of motion (*càak* 'from') only when occurring after a durative path verb and/or a deictic verb (e.g. *paj* 'go'), as in (37), or before an allative preposition (e.g. *thǔŋ* 'to'), as in (38). The durative path verb *taam* 'follow' with a route noun phrase serves as the preposition indicating the passing route of motion (*taam* 'along') only when appearing after a deictic verb (e.g. *maa* 'come'), as in (39).[30]

(38) *kháw bin paj <u>càak</u> tookiaw <u>thǔŋ</u> hɔ́kkaidoo*
 PRON fly go <u>from</u> Tokyo <u>to</u> Hokkaido
 'He flew from Tokyo to Hokkaido.'

(39) *kháw wîŋ maa <u>taam</u> thaaŋ*
 PRON run come <u>along</u> road
 'He came along the road running.'

As mentioned earlier, path prepositional phrases follow the verbal unit for motion macro-events, but they may be moved into the position in front of the unit, thereby topicalizing the particular path concepts that they denote, as in (40)–(42).

(40) <u>*càak*</u> *tookiaw kháw bin paj hɔ́kkaidoo*
 <u>from</u> Tokyo PRON fly go Hokkaido
 'From Tokyo, he flew to Hokkaido.'

(41) <u>*càak*</u> *tookiaw <u>thǔŋ</u> hɔ́kkaidoo kháw bin paj*
 <u>from</u> Tokyo <u>to</u> Hokkaido PRON fly go
 'From Tokyo to Hokkaido, he flew.'

(42) <u>*taam*</u> *thaaŋ kháw wîŋ maa*
 <u>along</u> road PRON run come
 'Along the road, he came running.'

---

30. For a systematic classification of Thai spatial prepositions, refer to Takahashi (2009c: 189–191) and Prasithrathsint (2010).

When the morphemes *càak*, *thǔŋ*, and *taam* are used as a motion verb to dynamically express the path of motion, as in (43) and (44), the motion verb cannot move to anywhere other than its position in the fixed order of serial motion verbs for motion macro-events (Table 2).

(43)   *kháw bin càak tookiaw paj thǔŋ hɔ́kkaidoo*
         PRON fly <u>leave</u> Tokyo go <u>arrive</u> Hokkaido
         'He flew from Tokyo to Hokkaido.'

(44)   *kháw wîŋ taam thaaŋ maa*
         PRON run <u>follow</u> road come
         'He came along the road, running.'

According to the fixed order (C + M + Pun + Dur + Dei + Ar), the punctual path verb *càak* 'leave, get away from' in (43) appears between the manner verb *bin* 'fly' and the deictic verb *paj* 'go' (M + Pun + Dei); the arrival verb (achievement terminative path verb) *thǔŋ* 'reach, arrive' in (43) immediately follows the deictic verb (Dei + Ar); and the durative path verb *taam* 'follow' in (44) occurs between the manner verb *wîŋ* 'run' and the deictic verb *maa* 'come' (M + Dur + Dei).

An anonymous reviewer's Thai-speaking consultant analyzes *càak* in (43) as a preposition, but not a verb, since it is likely to have the same sense as the preposition *càak* in (38), (40), and (41). The consultant adds that *càak* could be a verb, but only if *bin* 'fly' is absent in (43). Now, we should examine if *càak* in (43) has a prepositional, static meaning and does not have a verbal, dynamic meaning; in other words, whether *càak* merely refers to a source and does not depict an inceptive motion. Compare (38) and (43), which are repeated below.

(38)   *kháw bin paj càak tookiaw thǔŋ hɔ́kkaidoo*
         PRON fly go <u>from</u> Tokyo to   Hokkaido
         'He flew from Tokyo to Hokkaido.'

(43)   *kháw bin càak tookiaw paj thǔŋ hɔ́kkaidoo*
         PRON fly <u>leave</u> Tokyo go arrive Hokkaido
         'He flew from Tokyo to Hokkaido.'

The expression in (38) contains two path prepositional phrases (*càak tookiaw* 'from Tokyo', *thǔŋ hɔ́kkaidoo* 'to Hokkaido'), by which the distance of traveling is explicitly indicated. The expression in (38) is used to talk about the described person's traveling from Tokyo to Hokkaido, when the speaker wants to express that the person traveled by plane (as opposed to other means such as by train, car, bicycle, etc.). On the other hand, the typical use of the expression in (43) would be to answer a general question, without any presupposition on the part of the questioner, such as 'What did he do?'. That is, (43) is the most natural depiction of the person's

movement (cf. Takahashi 2017a: 137). This difference in usage between (38) and (43) can be seen as a diagnostic to show that *càak* and *thǔŋ* function differently in the two contexts. In (38), *càak* and *thǔŋ* function as prepositions to refer to the source and the goal, respectively. They collaboratively specify the distance of the traveling. In contrast, in (43), *càak* and *thǔŋ* function as verbs to depict the inceptive and the terminative phase of the traveling, respectively.

4.2 Verbs and satellites

In relation to the proposal in Section 3, this section considers the status of non-initial verbs as full verbs. Peyraube (2006), Lamarre (2007), and Talmy (2016) among others have argued that non-initial verbs in the verb sequences in Mandarin Chinese function as satellites, and one may wonder if that is also the case with Thai.

In domains other than motion events, versatile motion verbs have acquired auxiliary-like functions in limited syntactic environments, having lost their full verb status in such cases. Specifically, the function that some Thai motion verbs have acquired is that of an aspectual/modal marker in relation to the verb that precedes it (cf. Thepkanjana 2006: 130–131).

(45) *man* *dii* <u>*khûn*</u>
    PRON be.good INC (< ascend)
    'It got better.'

(46) *chán* *khít* <u>*ʔɔ̀ɔk*</u>
    PRON think INC (< exit)
    'I came to realize.'

(47) *man* *khǎaj* <u>*mâj ʔɔ̀ɔk*</u>
    PRON sell   NEG.POT (< not exit)
    'They won't sell.'

For example, the morpheme *khûn* in combination with the stative verb *dii* 'be good' in (45) and the morpheme *ʔɔ̀ɔk* in combination with the cognition verb *khít* 'think' in (46) function as inceptive aspect markers. The unit composed of the negative marker *mâj* and the morpheme *ʔɔ̀ɔk* that follows the action verb *khǎaj* 'sell' in (47) functions as a negative potential marker. However, even when a motion verb is used as a satellite, as in (45)–(47), its phonological weight is usually not reduced.

Besides *khûn* 'ascend' and *ʔɔ̀ɔk* 'exit', Thai has several other versatile motion verbs that are capable of functioning either as a motion verb or like an auxiliary, as listed in (48). Such verbs are limited in number and form a closed class. These versatile motion verbs, in fact, have auxiliary-like functions.

(48)   Versatile motion verbs
    a.   versatile path verbs
        khâw 'enter', *ʔɔ̀ɔk* 'exit', *khûn* 'ascend', *loŋ* 'descend'
    b.   versatile deictic verbs
        paj 'go', *maa* 'come'

Non-initial path verbs in motion event descriptions in Thai may also seem to be grammaticalized into satellites, as is argued for Mandarin Chinese (e.g. Lamarre 2007). In (49)–(51), for instance, the versatile motion verbs *loŋ* 'descend' and *maa* 'come' may appear to function as path satellites in relation to the previous cause verb *phát* 'blow'.

(49)   *lom phát baj máj <u>loŋ</u>   <u>maa</u>*
      wind blow leaf   <u>descend</u> <u>come</u>
      'The wind blew the leaves down (toward us).'

(50)   *lom phát baj máj <u>loŋ</u>   bon phúuun*
      wind blow leaf   <u>descend</u> on   the.ground
      'The wind blew the leaves down onto the ground.'

(51)   *lom phát baj máj <u>maa</u>*
      wind blow leaf   <u>come</u>
      'The wind blew the leaves off (toward us).'

However, I maintain that non-initial verbs in motion event descriptions largely retain their status as full motion verbs. One source of evidence is that a full range of motion verbs may occur as non-initial verbs as long as they match the order restrictions. More path verbs may occur in addition to *loŋ* 'descend' and *maa* 'come' in (49), as illustrated in (52). Example (52) contains one more path verb *rûaŋ* 'drop off'.

(52)   *lom phát baj máj <u>rûaŋ</u>   <u>loŋ</u>   <u>maa</u>*
      wind blow leaf   <u>drop.off</u> <u>descend</u> <u>come</u>
      'The wind blew the leaves down off (toward us).'

Furthermore, more motion verbs and/or a change-of-state verb may be added as non-initial verbs. For example, the manner verb *pliw* 'flutter' and the resultative change verb *kɔɔŋ* 'pile up' are used in (53) to specify the manner of the described leaves' relocation and the resultant state of the leaves.

(53)   *lom phát baj máj pliw rûaŋ   loŋ   maa kɔɔŋ pen phuu khǎw*
      wind blow leaf   flutter drop.off descend come pile.in.heaps
      'The wind blew the leaves down off (toward us), fluttering, and (they) piled in heaps.'

Thus, unlike in Mandarin Chinese, non-initial verbs in Thai motion expressions do not form a closed class.[31] This reveals that Thai path verbs have not yet formed the type of fixed paradigm that satellites usually form.

Thai expresses different motion components (motion sub-events) with serial verb phrases. In Thai motion expressions, each component (each sub-event) is represented by a verb that holds enough independence to freely take its own object or complement noun phrase, as shown in the following examples.

(54) *cháaŋ* <u>*lâak*</u> <u>*suŋ*</u> *paj*
elephant <u>drag</u> <u>log</u> go
'The elephant dragged the log away.'

(55) *kháw* <u>*yoon*</u> <u>*khayàʔ*</u> <u>*càak*</u> <u>*chán bon*</u> *loŋ* *paj*
PRON <u>throw</u> <u>trash</u> <u>leave</u> <u>upstairs</u> descend go
'He threw the trash from upstairs down and away.'

(56) *lom* <u>*phát*</u> <u>*mùak*</u> *pliw* <u>*loŋ*</u> <u>*nám*</u> *paj*
wind <u>blow</u> <u>hat</u> flutter <u>descend</u> <u>water</u> go
'The wind blew the hat, which flew down into the water.'

The cause verbs in (54)–(56) (*lâak* 'drag', *yoon* 'throw', *phát* 'blow') take a noun phrase for the moved entity. The punctual path verb in (55) (*càak* 'leave, get away from') and the durative path verb in (56) (*loŋ* 'descend') also take a noun phrase indicating some reference place. Each verb in Thai motion expressions behaves in quite an independent manner since it has not yet lost its "verbiness".

Verbiness is a concept different from the finiteness of a verb. Whereas verbiness is a notion of semantics and syntax, finiteness is basically a notion of morphology in the sense that the verbal distinction between finite and non-finite must be marked by some morphological means such as inflection. Verbs in Thai, a typical isolating language, lack the morphological coding of finiteness. In Thai, therefore, plain verbs each taking an object or complement noun phrase can combine to form a single clause expressing a macro-event, which has been referred to as a 'serial verb phrase construction' in this chapter. Most linguists (e.g. Filbeck 1975) regard the first verb in a serial verb phrase construction as the main verb, perhaps because they adopt the common theoretical assumption in linguistics that one clause must contain one main verb, which is the only finite verb in the clause. However, Thai verbs have no division between finite and non-finite, and sometimes noun phrases adjacent to a Thai verb are ambiguously classifiable as either required arguments of the verb

---

31. According to a reviewer, Talmy (2016) did not reach a decisive conclusion in the case of Mandarin Chinese. In my view, Talmy (2016) still argues that Mandarin Chinese has path satellites and that, normally, a Mandarin Chinese motion macro-event expression consists of a co-event verb and a path satellite, with a few exceptions (e.g., *zou³ jin⁴* 'walk, enter').

(subject and object noun phrases) or non-arguments (complement noun phrases). What is more, Thai verbs are not necessarily accompanied by a subject or object noun phrase in every clause. For these reasons, more than one verb in a plain form with or without its object or complement noun phrase may co-occur in a clause to produce a serial verb phrase construction with a coordinate, yet mono-clausal, structure. Having examined Thai expressions for a variety of complex events (cf. Takahashi 2007, 2009a, 2009b, 2009c, 2017b, 2018a), I maintain that a complex macro-event may be composed of a main event and a subordinate event or of two or more coordinate events. In essence, my proposal is that Thai verbs that co-exist in a clause for a motion macro-event are by and large constituents of equal status. They are neither main verbs nor satellites.

5.   Conclusion

I have argued that the event structure underlying Thai expressions of motion macro-events comprises three successive phases: causation, process, and change (plus state) phases. Presumably, this force-dynamic structure of the motion macro-event is a universal construal of human beings. However, morphosyntactic patterns for motion macro-events differ from language to language. Crucially, Thai expressions for motion macro-events may profile a bipartite or tripartite event structure by making use of serial verb phrase constructions. Semantic components in the event structure of motion expressions correspond to sub-events of the motion macro-event. In total, six main components of motion are recognized in Thai: components of cause, manner, punctual path, durative path, deixis, and arrival. The first two (cause and manner) are crosslinguistically common and so they are comprehensible to speakers of other languages. The others (punctual path, durative path, deixis, and arrival) seem language-particular, and other languages may not utilize such specific categories. In a Thai expression of a motion macro-event, these six components can be concurrently specified by means of serial verb phrases, and each of these components, except for the last two (deixis and arrival), may be richly described by more than one verb phrase. Of particular importance is the fact that it is possible for three path components in the process phase (i.e. punctual path, durative path, and deictic or reference-point-particular path) as well as one path component in the change (plus state) phase (i.e. terminative path) to congruously constitute the single path of a motion macro-event. These findings offer the key to a better understanding of the conceptual underpinnings of Thai speakers' verbalization of motion.

The present chapter has focused on Thai; similar studies on the details of motion event descriptions in other languages may reveal further language-specific categories employed in their systems of motion event descriptions.

Acknowledgements

Funding information

Abbreviations

INC	inceptive
IRR.COMP	irrealis complementizer (i.e. complementizer preceding complement clause for irrealis situation)
NEG.REAL	negative realization
NEG.POT	negative potential
PFV	perfective
PRON	pronoun

References

Bisang, W. 2003. Aspect in East and Mainland Southeast Asian languages: A first step. *MANUSYA: Journal of Humanities, Special issue No.6: Thai from linguistics perspectives*, 43–56.

Bohnemeyer, J., Enfield, N. J., Essegbey, J., Ibarretxe-Antuñano, I., Kita, S., & Lüpke, F. 2007. Principles of event segmentation in language: The case of motion events. *Language*, 83(3), 495–532. https://doi.org/10.1353/lan.2007.0116

Bohnemeyer, J. & Van Valin, R. D., Jr. 2017. The macro-event property and the layered structure of the clause. *Studies in Language*, 41, 142–197. https://doi.org/10.1075/sl.41.1.05van

Clark, M. 1975. Coverbs and case in Vietnamese. Unpublished Ph.D. dissertation, University of Hawaii.

Croft, W. 2003. *Typology and universals*, 2nd ed. Cambridge: Cambridge University Press.

Croft, W. 2012. *Verbs: Aspectual and causal structure*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199248582.001.0001

Filbeck, D. 1975. A grammar of verb serialization in Thai. In J. G. Harris & J. R. Chamberlin (Eds.), *Studies in Tai linguistics in honor of William J. Getney* (112–129). Bangkok: Central Institute of English Language, Office of State Universities.

Haiman, J. 1980. The iconicity of grammar: Isomorphism and motivation. *Language* 56(3) (515–540). https://doi.org/10.2307/414448

Kessakul, R. 2005. The semantic structure of motion expressions in Thai. Unpublished Ph.D. dissertation, The University of Tokyo.

Lamarre, C. 2007. The linguistic encoding of motion events in Chinese: With reference to cross-dialectal variation. In C. Lamarre & T. Ohori (Eds.), *Typological studies of the linguistic expressions of motion events, Volume 1: Perspectives from East and Southeast Asia* (3–33). Tokyo: 21st Century COE Program, Center for Evolutionary Cognitive Sciences at the University of Tokyo.

Matisoff, J. 1973. *The grammar of Lafu*. California: University of California Press.

Matsumoto, Y. 2018. Motion event descriptions in Japanese: Typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics* (273–289). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614514077-101

Matsumoto, Y., Akita, K., & Takahashi, K. 2017. The functional nature of deictic verbs and the coding patterns of Deixis. In I. Barretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (95–122). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.05mat

Muansuwan, N. 2002. Verb complexes in Thai. Ph.D. dissertation, State University of New York at Buffalo.

Peyraube, A. 2006. Motion events in Chinese: A diachronic study of directional complements. In M. Hickmann & S. Robert (Eds.), *Space in languages: Linguistic systems and cognitive categories* (121–135). Amsterdam: John Benjamins. https://doi.org/10.1075/tsl.66.08pey

Prasithrathsint, A. 2010. Grammaticalization of nouns into prepositions in Thai. *Journal of Language and Linguistics*, 28(2), 68–83.

Slobin, D. I. 2004. The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative, Vol. 2: Typological and contextual perspectives* (219–257). Mahwah, NJ: Lawrence Erlbaum Associates.

Takahashi, K. 2005. The allative preposition in Thai. In P. Sidwell (Ed.), *SEALS XV: Papers from the 15th meeting of the Southeast Asian linguistics society (2005)* (111–120). Canberra: Pacific Linguistics.

Takahashi, K. 2007. Accomplishment constructions in Thai: Diverse cause-effect relationships. In S. Iwasaki, A. Simpson, K. Adams, & P. Sidwell (Eds.), *SEALS XIII: Papers from the 13th meeting of the Southeast Asian linguistics society (2003)* (263–277). Canberra: Pacific Linguistics.

Takahashi, K. 2008. Grammaticalization paths of the Thai verb /dây/: A corpus-based study. In P. Sidwell & U. Tadmor (Eds.), *SEALS XVI: Papers from the 16th meeting of the Southeast Asian linguistic society (2006)* (121–133). Canberra: Pacific Linguistics.

Takahashi, K. 2009a. Basic serial verb constructions in Thai. *Journal of the Southeast Asian Linguistics Society*, 1, 215–229.

Takahashi, K. 2009b. Thai motion event expressions: A literature review. In M. Minegishi, K. Thepkanjana, W. Aroonmanakun, & M. Endo (Eds.), *Proceedings of the Chulalongkorn-Japan linguistics symposium* (29–43). Tokyo: Global COE Program: Corpus-based Linguistics and Language Education, Tokyo University of Foreign Studies.

Takahashi, K. 2009c. Arrival expressions in Thai. *Journal of the Southeast Asian Linguistics Society*, 2, 175–193.

Takahashi, K. 2017a. Taigo no idoo-hyoogen [Motion expressions in Thai]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (129–158). Tokyo: Kurosio Publishers.

Takahashi, K. 2017b. Mandarin Chinese and Thai expressions of caused motion: Different caused-motion components in verb-serializing languages. *Language and Linguistics in Oceania*, 9, *Special issue No. 2: South East Asian linguistics*, 43–69.

Takahashi, K. 2018a. Deictic motion constructions in Japanese and Thai. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics* (291–312). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614514077-011

Takahashi, K. 2018b. Taigo no yooto no hiroi keiro-doosi no goi-soo o saikoo suru: Bideo-kurippu jikken kara erareta idoo-hyoogen no iti-bunseki [On lexical aspects of versatile path verbs in Thai: An analysis of motion descriptions elicited by a video-based experiment]. *Kanda gaigo daigaku kiyoo* [Journal of Kanda University of International Studies], 30, 435–453.

Takahashi, K. 2020. Kanjoo-idoo o arawasu taigo-doosi *won* no goi-soo [On different lexical aspects of the Thai verb *won* that expresses motion in a circle]. In Working group for a festschrift to honor Yo Matsumoto on the occasion of his 60th birthday (Ed.), *Ninti-gengogaku no habataki* [A new development of cognitive linguistics] (39–52). Tokyo: Kaitakusha.

Talmy, L. 1988. Force dynamics in language and cognition. *Cognitive Science*, 12, 49–100. https://doi.org/10.1207/s15516709cog1201_2

Talmy, L. 1991. Path to realization: A typology of event conflation. In *Proceedings of the 17th annual meeting of the Berkeley linguistics society* (480–519). Berkeley, CA: Berkeley Linguistics Society.

Talmy, L. 2000a. *Toward a cognitive semantics, Vol. I: Concept structuring systems*. Cambridge, MA: MIT Press.

Talmy, L. 2000b. *Toward a cognitive semantics, Vol. II: Typology and process in concept structuring*. Cambridge, MA: MIT Press.

Talmy, L. 2016. Properties of main verbs. *Cognitive Semantics*, 2(2), 133–163. https://doi.org/10.1163/23526416-00202001

Thepkanjana, K. 1986. Serial verb constructions in Thai. Unpublished Ph.D. dissertation, University of Michigan.

Thepkanjana, K. 2006. Nùaj sâaŋ kariyaa riaŋ tôn bὲɛp naj phaasǎa thaj [Prototypical serial verb constructions in Thai]. In A. Prasithrathsint (Ed.), *Nùaj sâaŋ thîi mii khɔ̌ɔ khàt yéɛŋ naj wajyaakɔɔn thaj: Nùaj sâaŋ khunaanúprayòok, nùaj sâaŋ prayòok tǝǝm tem, nùaj sâaŋ kariyaa riaŋ lέʔ nùaj sâaŋ kamwaacòk* [Controversial constructions in Thai grammar: Relative clause constructions, complement clause constructions, serial verb constructions, and passive constructions] (66–173). Bangkok: Chulalongkorn University Press.

Van Valin, R. D., Jr. 2005. *Exploring the syntax-semantics interface*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511610578

Vendler, Z. 1967. *Linguistics in philosophy*. Ithaca, NY: Cornell University Press.

Zlatev, J. 2003. Holistic spatial semantics of Thai. In E. H. Casad & G. B. Palmer (Eds.), *Cognitive linguistics and non-Indo-European languages* (305–355). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110197150.7.305

Zlatev, J., & David, C. 2003. Motion event constructions in Swedish, French and Thai: Three different language types? *MANUSYA: Journal of Humanities, Special issue No.6: Thai from linguistics perspectives*, 18–42.

Zlatev, J., & Yangklang, P. 2004. A third way to travel: The place of Thai in motion-event typology. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative, Vol. 2: Typological and contextual perspectives* (159–190). Mahwah, NJ: Lawrence Erlbaum Associates.

Crosslinguistic and theoretical studies

A fine-grained analysis of manner salience

Experimental evidence from Japanese and English

Kimi Akita and Yo Matsumoto

Nagoya University / National Institute for Japanese Language and Linguistics

This chapter delves into the typological discussion of "manner salience" (Slobin 2004, 2006) by means of a fine-grained examination of different kinds of manner expressions. Our two speech elicitation experiments revealed that English speakers are clearly more manner salient than Japanese in the use of the "default" general manner expression (i.e. *walk*) in describing human walking motion. On the other hand, Japanese speakers use mimetic adverbs which significantly contribute to the expressive power of manner expressions, especially in describing the sounds that moving entities make. These results indicate that manner salience is a complex phenomenon that involves multiple parameters in the form and meaning of manner expressions, rather than a mere epiphenomenon of the typology based on path coding positions.

Keywords: expressiveness, frog stories, ideophones, mimetics, sounds of motion, video experiment

1. Introduction

Speakers of some languages mention manner of motion (e.g. running, crawling, skipping) more frequently than speakers of other languages. In this chapter, we discuss this typological issue – called "manner salience" (Slobin 2004, 2006) – on the basis of two speech elicitation experiments with Japanese and English speakers. By manner salience we mean the degree to which speakers of a language pay attention to the manner component of motion events, typically assessed by the frequency of manner expressions (Slobin 2004, 2006). According to Slobin, the typology of manner salience depends on the lexical, syntactic, and even rhetorical profiles of each language. This chapter discusses two such determinants: the typology of motion event descriptions in terms of path coding positions (Talmy 1991, 2000; Slobin 1996, 2000; Matsumoto 2003, 2018) and the nature of manner expressions. As for the second determinant, we pay special attention to the different types of manner

expressions, based not just on general/specific contrasts but also finer-grained distinctions involving defaultness and expressiveness. Expressiveness is an important formal property that is particularly characteristic of mimetic (or ideophonic) lexemes, including those describing sounds, which abound in Japanese as well as in some other languages (Wienold 1995; Voeltz and Kilian-Hatz 2001; Tsujimura and Deguchi 2007; Toratani 2012). The discussion is based on experimental data, examining more diverse motion events than have been examined so far, including sound-emitting motion.

The organization of this chapter is as follows. Section 2 presents basic concepts of manner and manner salience and introduces the types of manner expressions used in this chapter, focusing on different parameters in such expressions. In Section 3, a "frog story" experiment is reported for Japanese, and the results are compared with previously available English data. This examination of manner salience in a familiar experimental setting reveals differences between the two languages when their overall results are compared, as well as a large degree of variation in the use of manner expressions for different scenes within each language. In Section 4, we report our thorough reanalysis of the results of a speech elicitation experiment using audio-video clips (Akita et al. 2010) from the perspective of the present chapter. We show that the overall use of manner expressions is not much different between English and Japanese, but scene-based analyses reveal important differences, with English speakers more frequently using the default manner expression *walk* in describing walking events, and Japanese speakers more frequently utilizing mimetic adverbials of high expressive power in describing the sound-emitting motion of inanimate objects. In Section 5, we argue that the typology based on path coding positions does not fully account for the manner salience of individual languages. Section 6 provides a conclusion.

2. The typology of manner expressions

2.1 Manner

The term "manner" has been used somewhat broadly in the literature on manner salience. According to Slobin (2004: 255), it covers "an ill-defined set of dimensions that modulate motion, including motor pattern, rate, rhythm, posture, affect, and evaluative factors" (see also Stosic 2009). Typically, manner of motion refers to the limb motion of a moving person, but often verbs like *rattle* are also treated as manner verbs (e.g. Ohara 2002; Slobin 2004). This situation calls for the clarification of the term in this chapter.

The term manner in this chapter is used for the features of a Figure that non-accidentally cooccur with motion. It subsumes what Talmy (2000) calls "Manner"

and "Concurrent Result". Both Manner and Concurrent Result are relations that the Co-event has to the Motion event, defined as follows.

> In the Manner relation, […] the Co-event co-occurs with the Motion event and is conceptualized as an additional activity that the Figure of the Motion event exhibits – an activity that directly pertains to the Motion event but that is distinct from it. In this conceptualization, the Co-event can "pertain" to the Motion event in several ways, such as by interacting with it, affecting it, or being able to manifest itself only in the course of it.   (Talmy 2000: 45)

> In the relation of Concurrent Result, the Co-event results from – that is, is caused by – the main Motion event, and would not otherwise occur. It takes place concurrently with, or during some portion of, the Motion event.   (Talmy 2000: 46–47)

Note that in both Talmy's Manner and Concurrent Result, the Co-event has non-accidental cooccurrence with the Motion event. This similarity motivates our treatment of both as the same category. Syntactically, Manner and Concurrent Result often behave in a similar way, e.g. occurring in the same construction in English: *spin past the lamp, curl up into its sheath*, etc. (Manner); *splashed into the water*, etc. (Concurrent Result). This syntactic parallelism also underlies the broader definition of manner we adopt.

It should be noted that we do not include Concomitance, another subevent relation Talmy proposes, in our manner category. In the Concomitance relation, "the Co-event co-occurs with the main Motion event and is an activity that the Figure of the Motion event additionally exhibits" and "this activity does not in itself pertain to the concurrent Motion" (Talmy 2000: 46). For example, a woman wearing a green dress is only concomitant to her motion event to a party and does not pertain to it. Interestingly enough, in English, Concomitance tends to be incompatible with the V + Path PP construction. In (1), the emission of a whistling sound is closely related to the train's movement but not to Shelly's, and this semantic difference leads to different acceptability (see also Levin et al. 1997; Goldberg and Jackendoff 2004: 540; Iwata 2006; Tamura 2006; cf. Talmy (2000: 46) gives a sentence like (1a) as acceptable).[1]

(1) a. *Shelly whistled down the street.   (Concomitance)
     b.   The train whistled into the station.   (Manner) (Levin 1993: 236)

---

1. Our definition excludes Cause or Means of Causation, such as throwing in (i), from the manner category.

(i)   *Susan threw a ball to us.*

We do include Manner in Caused-motion sentences, such as rolling in (ii), which is the Manner of the ball's motion caused by the subject's action.

(ii)   *We rolled the ball down the hill.*

2.2 Manner salience

The idea of manner salience appeared as part of Slobin's (1996, 1997, 2000, 2004) thinking-for-speaking hypothesis that has its basis in the "framing typology" of motion event descriptions (Talmy's 1991, 2000), which recognized two types of languages. So-called verb-framed languages (Talmy 2000), or head path-coding languages in our terms (Matsumoto 2017), typically encode path in the clause head position (i.e. the main verb or the head of a main verb complex) and need additional, often optional elements (e.g. adverbs, participial verbs) to express manner, as illustrated in (2a).[2] Basque, Japanese, Korean, and Romance and Semitic languages have been suggested to be of this type (Talmy 2000, Slobin 2004). Satellite-framed languages, or head-external path-coding languages in our terms, on the other hand, typically encode path in adpositions, particles, verbal affixes, and other elements external to the head, leaving the main verb slot open to encoding manner among other things, as illustrated in (2b). Finno-Ugric, Germanic, and Slavic languages have been suggested to be of this type (Talmy 2000, Slobin 2004).

(2) a. *Inu ga   inugoya ni   (**hasit-te)** hait-ta.*   (Japanese)
       dog NOM doghouse GOAL run-CONJ enter-PST
       'The dog entered the doghouse (running).'
    b. *The dog **ran** into the doghouse.*

According to Slobin (1996) and Talmy (2000), expressing path outside the main verb means that manner is in the main verb position, and since the main verb is syntactically obligatory, manner has to be mentioned. This is how the framing type of a language is argued to contribute to the frequency of manner expressions, although the expression of path in head-external positions does not in fact guarantee the use of manner verbs as the main verb, as pointed out by Berthele (2013) and discussed later. Slobin claims that such a difference in path coding position has led to rhetorical differences in which speakers of satellite-framed or head-external path-coding languages habitually pay attention to manners and describe them.

Slobin (2004, 2006) modified his view slightly in light of his three-way (rather than binary) classification of languages, which recognizes another type,

---

2. Our terms, 'head path coding' and 'head-external path coding', avoid the terminological issues of Talmy's typology, as discussed in Matsumoto (2003). There are some additional differences between Talmy's typology and ours. Most importantly, Talmy's typology concerns cases where Manner (and other Co-events) are integrated with Path into a clause. Our terms are not meant to be restricted to such cases, and are applicable to sentences without Manner specifications (e.g. *Bill came into the building*).

equipollently-framed languages, in which path and manner are expressed in forms of the same status (e.g. verbs in a serial verb construction). Recognizing that Thai and Mandarin Chinese, which he categorizes as equipollently-framed, are rich in manner expressions, he states that languages of low manner salience express manner in a subordinate position with respect to path (i.e. either path is in the main verb and manner is in a subordinate to it, or path and manner are expressed in forms of equal status). (We discuss this view later in Section 5.)

Other factors may also contribute to manner salience. It has been argued that a language may have a mixed system for expressing path with multiple constructions available to indicate manner, and so a simple identification of a language in terms of path coding position may not be a good indicator of manner salience. Koga (2017) argues that one factor in high manner salience is the presence of a syntactic/morphological slot that is exclusively used for manner. Another factor that may contribute to manner salience is the lexical inventory of conventional manner expressions and means to create nonconventional manner expressions (Slobin 2004, 2006). Mimetics, more generally called ideophones, are among such lexical resources. They are defined as "marked words that depict sensory imagery" (Dingemanse 2011: 25), including but not limited to onomatopoeia (i.e. sound imitatives). Their morphological and phonological representations iconically reflect the sensory experience they depict, as illustrated by the English partially reduplicated nasal-ending mimetic *dingdong* for a repetitive reverberating sound. Matsumoto (2003: 408–413) notes the abundance of mimetic manner adverbials in some languages and, furthermore, its incomplete correlation with the typology based on path coding positions (cf. Wienold 1995). Some head path-coding languages, such as Basque (Ibarretxe-Antuñano 2006, 2009a), Japanese (Hamano 1998; Toratani 2012), and Korean (Sohn 1994), are rich in mimetic manner expressions, but other languages of the same type, such as Spanish and Hebrew, are not. We may therefore expect some head path-coding languages to be more manner salient than other languages of the same type, or even than some head-external path-coding languages.

Relevant cases have been reported for Japanese. Ohara (2002) and Sugiyama (2005) observe that novels translated into Japanese preserve much of the manner-of-motion information in the English originals by means of mimetics. This is illustrated in (3), in which the auditory manner information expressed by *rattle* in the English original of *The Adventures of Sherlock Holmes* (Doyle 1892) is successfully preserved by the mimetic *gotogoto* 'rattling' in addition to the manner verb *hasir* 'run' in the Japanese translation.

(3) a. *We **rattled** through… gas-lit streets…*   (English original)
   b. *Gasutoo ni teras-are-ta   yoru no gairo o, … basya   wa*
      gas.light by light-PASS-PST night GEN street ACC carriage TOP
      ***gotogoto to   hasiri**-tuzuke…*
      MIM   QUOT run-continue
      '[Our] carriage continued to *run rattlingly* through gas-lit night streets,
      and…'   (Japanese translation; adapted from Ohara 2002: 135–136)

As in this example, Japanese mimetics used in motion descriptions are mostly adverbial (Kita 1997; Hamano 1998). They are typically identifiable by their morphological shape, notably reduplication, as is true for mimetics in many other languages (Hinton et al. 1994; Ibarretxe-Antuñano 2006). Adverbial mimetics are often followed by the quotative marker *to* (or *te*), as in (3b), but it is optional for certain morphological types of mimetics.

Since both Ohara and Sugiyama limit themselves to a few dozens of sentences, the discussion will benefit from a more extensive quantification of manner salience, including one based on speech data with many mimetic instances. The present study presents relevant experimental data primarily in Japanese and English, shedding light on a more elaborated analysis of manner salience.

2.3   Types of manner expressions

A fine-grained classification of manner expressions is needed for an elaborate examination of manner salience. There are three important contrasts in manner expressions that may be relevant to their token frequency and syntactic realizations: general vs. specific; default vs. nondefault; and conventional vs. expressive.

First, manner expressions differ in specificity. As Slobin (1997, 2000) assumes for verb lexicons, some manner expressions, such as *walk*, *run*, *jump*, and *swim*, are general and basic, whereas others, such as *hop*, *jog*, *stride*, and *ramble*, are specific (see also Snell-Hornby 1983; Boas 2008; Malt et al. 2014; Slobin et al. 2014). Specific manner expressions can be defined as expressions that give further manner specification to other, general manner expressions. For example, English has an extensive set of specific manner verbs. The specificity of these verbs can be confirmed by expressions like *Jogging is a kind of running* and *Striding is a kind of walking*. Crucially, this type of relation cannot be found for verbs like *walk* and *run*, which are general manner verbs and do not have superordinate manner verbs; no manner-of-motion verb can be found for the slot in *Walking is a kind of _____ing*. Similarly, adverbs can also be classified in terms of the general/specific distinction. While *quickly* is general, *briskly* is specific. This distinction roughly corresponds to Slobin's (2000) "Tier 1" and "Tier 2" manners, and Slobin et al.'s (2014) "basic" and "expressive"

manners. The distinction is largely a matter of categorization, rather than one that is based on the use of expressions.

Languages appear to differ considerably in the lexicalization of specific manners. The size of a manner verb lexicon varies according to the language, and this has been discussed with respect to the typology based on path coding positions (Slobin 1997, 2004; Verkerk 2013). In this regard, English abounds in monomorphemic specific manner verbs (Snell-Hornby 1983; Levin 1993), whereas Japanese does not (see Wienold 1995; Matsumoto 1997). Specific manner expressions in Japanese include (i) (a limited number of) verbs (e.g. *kake* 'run briskly, dash'), (ii) verbal nouns forming a complex verb with the light verb *su* (e.g. *sukippu-su* (skip-do) 'skip', *kappo-su* (striding-do) 'stride'), and (iii) mimetic adverbials (e.g. *tobotobo (to)* (MIM QUOT) 'ploddingly', *pyonpyon (to)* (MIM QUOT) 'hoppingly') (for related discussions, see Schaefer 2001; Toratani 2012: 117–118; see also Cardini 2008; Slobin et al. 2014).

The second and third distinctions are based on the functional properties of manner expressions. The second one concerns defaultness. Predictable manners may be left unmentioned even if the language has expressions for them. Oh (2003: 19) finds that speakers of Korean often ignore an inconspicuous manner of human locomotion (i.e. walking), but English speakers rarely do. Walking is a typical, "default" manner of motion in many cases of human motion and is, therefore, predictable and omissible (see also Morita this volume for a related discussion in French). A related remark can be found in Talmy (2000: 65), who cites Emai as a language in which, among different types of manners, only walking cannot be expressed in the main verb. These reports suggest that verbs for default manner, notably verbs meaning 'walk', are used differently. Note that 'walk' verbs may not be different from 'run' verbs in terms of their categorical status of being superordinate to more specific manner verbs (Malt et al. 2014), but they are different in terms of their pragmatic properties (i.e. frequency, usualness, predictability). It may be the case that certain other manner verbs expressing a typical and predictable manner of types of moving entities other than human beings (e.g. flying for birds and planes, swimming for fish) may also be regarded as default, at least in relevant contexts.

The third distinction is based on expressiveness (Akita 2017; Dingemanse and Akita 2017). Expressiveness in this chapter refers to the features of expressions, especially certain mimetics, that are not morphophonologically conventional and are used to convey semantically emphatic effects of increased vividness (thus, it is crucially different from the way this term is used in Slobin et al. (2014)). Typical expressive features include vowel lengthening, extra repetition, and special intonation or phonation (Zwicky and Pullum 1987; Nuckolls 1996; Kita 1997). For example, *dɔbɔrɔɔɔ* is an expressive use of the mimetic *dɔbɔrɔ* 'soft' in Siwu (Niger-Congo)

(Dingemanse 2011: 144, 146), which involves vowel lengthening and prominent intonation. Here we call such specific manner expressions "expressive" specific expressions, in contrast to "conventional" specific expressions. English and Japanese examples of expressive specific expressions include *(go) swooooosh* and *basyaaaan* 'splaaaash' (*swoosh* and *basyan* are treated as conventional specific expressions).

Recent crosslinguistic studies report a correlation between the prosodic and morphological expressiveness of mimetics and their grammatical realization (Dingemanse 2011, 2017; Dingemanse and Akita 2017). Mimetics with expressive features are most common in holophrastic and adverbial constructions, which have peripheral status in sentence structure. Expressiveness tends to diminish in predicative uses of mimetics. For example, Japanese mimetics that are incorporated into verbs (e.g. *burabura-su* (MIM-do) 'stroll') are much less likely than their non-incorporated counterparts (e.g. *burabura to aruk* (MIM QUOT walk) 'walk strollingly') to have expressive features such as lengthening and repetition (e.g. *?buurabura-buurabura-su* vs. *buurabura-buurabura to aruk*) (Akita 2017; for a detailed description of expressive features of Japanese mimetics, see Dingemanse and Akita 2017). A similar contrast is reported for English onomatopoeic expressions, which tend to be more expressive when they appear in a quotative *go*-construction (e.g. *went swooooosh*) than when realized as verbs (e.g. *?swoooooshed*) (Akita 2017). These findings allow us to expect that Japanese mimetics, which are typically adverbs, are more likely than English verbal onomatopoeia to be used expressively, contributing to the manner salience of motion descriptions.

Table 1 shows how the three parameters in manner expressions are related. It would be safe to say that default manner expressions are a subpart of general manner expressions, which are contrasted with specific manner expressions. The conventional vs. expressive distinction holds at a different level, but most expressive expressions are specific: although both general and specific manner expressions may in principle be uttered with different degrees of expressiveness, examples of the former appear to be rare.

Table 1. Types of manner expressions

		Conventional	Expressive
General	Default	*walk*	
	Nondefault	*run*	
Specific		*swagger*	*go swooooosh*

These different types of manner expressions convey different *quality* of manner information. Those languages in which specific manner expressions are preferred, especially expressive ones, may be said to be qualitatively manner salient.

Manner expressions can also be categorized in terms of the nature of the manner involved. Typical manner expressions code motion of limbs, which drives the body of a moving person forward (e.g. *walk*, *run*); other manner expressions often reflect inner psychological states of the moving person (e.g. *swagger*, *strut*). Manner expressions for inanimate moving objects may code the dynamics of the moving object in motion (e.g. *bounce*, *roll*). Other manner expressions as defined in Section 2.1 code the sounds with which a moving object moves (e.g. *rattle*, *plop*). Such different kinds of manner may be expressed differently according to the language. Japanese has a rich lexicon of sound mimetics (Kakehi et al. 1996), which are used for the sounds that different objects make. It would be interesting to see how such a lexical inventory of manner adverbs relates to the way manner expressions are used.

We assume that path and manner are not exclusive to each other in the lexicon, and that some path verbs encode manner as well (Beavers and Koontz-Garboden 2017). For example, the English verb *climb* typically refers to upward motion in a clambering manner (Fillmore 1975; Jackendoff 1985), and in this sense it codes manner as well as path. (The Japanese *nobor* 'go up' lacks such a clambering manner component; it can be used for the upward motion of a person, the sun, smoke, etc.).[3] We treat the path verb *fall* as additionally coding cause, not manner, since it can be used for a variety of falling manners (e.g. balls, leaves, snowflakes), which are all manifestations of the major cause of gravity.

The present study demonstrates that manner salience is not a unitary concept and different languages exhibit manner salience in different types of manner expressions. Specifically, we provide quantitative support for the high manner salience of English as measured by token frequencies of manner expressions, the default one (i.e. *walk*) in particular. However, focusing on a different parameter, expressiveness, leads to a somewhat different conclusion. We show this in the next two sections by examining the results of two speech elicitation experiments done in English and Japanese.

3. Experiment 1: Frog stories

In Experiment 1, we examined Japanese narrative data to compare them with English data. The picture book *Frog, Where Are You?* (Mayer 1969) used by Slobin (1996, 2000) was also used to elicit motion descriptions from Japanese speakers. The purpose of the experiment was to see how frequently manner expressions occur in

---

3. The verb *nobor* is used for an upward motion that appears to take place due to the force or tendency internal to the moving entity, and it cannot be used for an upward motion that is externally caused (e.g. a ball hit high up in baseball).

Japanese, in an experimental format already familiar to researchers of the typology of motion event descriptions (e.g. Slobin 1996, 2000, 2006; Özçalışkan and Slobin 2000; Ibarretxe-Antuñano 2009b). 23 Japanese frog stories were compared with Slobin's 12 English frog stories available in Marchman and Renner (2010), which were reanalyzed using our own terms.

3.1   Method

Twenty-three native speakers of Japanese (10 men and 13 women; ages: 21–30, $M = 23.79$; from west or central Japan) were asked to read the picture book silently and then tell the story while looking at the book again. This picture book contains a set of pictures without any words that form the story of a boy and a dog searching for a frog. It contains 29 events that can be potentially described in terms of motion, such as a frog stepping out of a jar, an owl popping out of a tree, and a deer running to a cliff with a boy on its head.[4] It is up to the speakers which events to include in their versions of the frog story, or whether to describe them in terms of motion and describe its manner. We expected these motion events to allow us to compare the frequency of different types of manner expressions in the two languages.

3.2   Results

Figure 1 shows what percentages of the 29 events that were potentially describable in terms of motion were in fact described as motion events, with the use of a motion verb (rather than being unmentioned or described without a motion verb) by the narrators. English narrators used motion descriptions for more of the 29 events than Japanese narrators did ($p < .001$ by Fisher's exact test). The average number of motion descriptions in English was 14.6 per narrator, as opposed to 11.9 in Japanese.

---

4.   These events are as follows: frog steps out of jar, frog goes out window, boy and dog go searching room, boy goes to window, dog goes to ledge, dog falls out of window with jar, boy goes out window, boy and dog go out into forest, gopher comes out of hole, dog jumps at beehive, bees come out/fly about, beehive falls, boy climbs a tree, owl comes out of tree, boy falls from tree, dog runs away from bees/is chased by bees, boy runs away from owl/is chased by owl, dog comes back to boy, boy and dog go further into forest, boy climbs rock, deer appears from behind rock, deer runs with boy on its head, dog runs with deer, deer throws boy off, boy (as well as dog) falls into pond, boy and dog come out of pond, boy creeps over log, frogs come out, boy returns with frog. This list includes events that are not depicted but that can be assumed to have happened in the transitions between scenes.
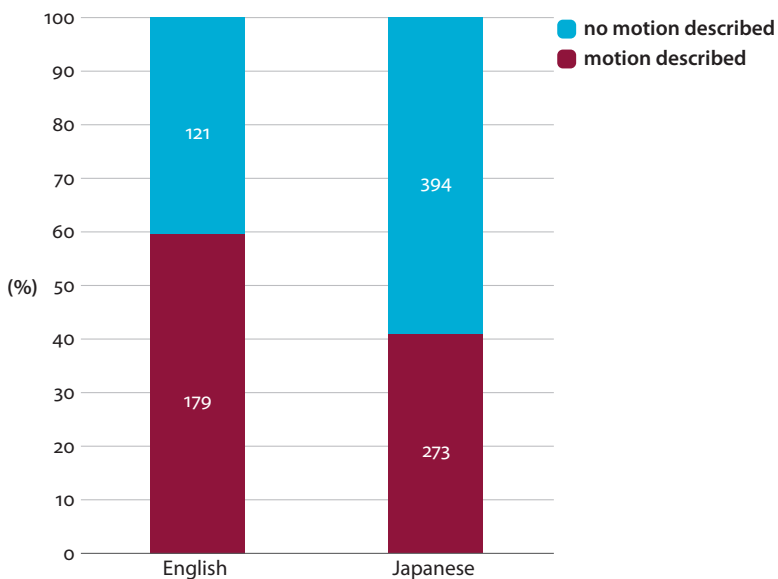
Figure 1. Motion descriptions in frog stories in English and Japanese

Figure 2 shows what percentages of the motion-based descriptions that were found in the narrations contain at least one manner expression. It reveals that English speakers described manner relatively more often in motion-based descriptions than Japanese speakers ($p < .01$ by Fisher's exact test).
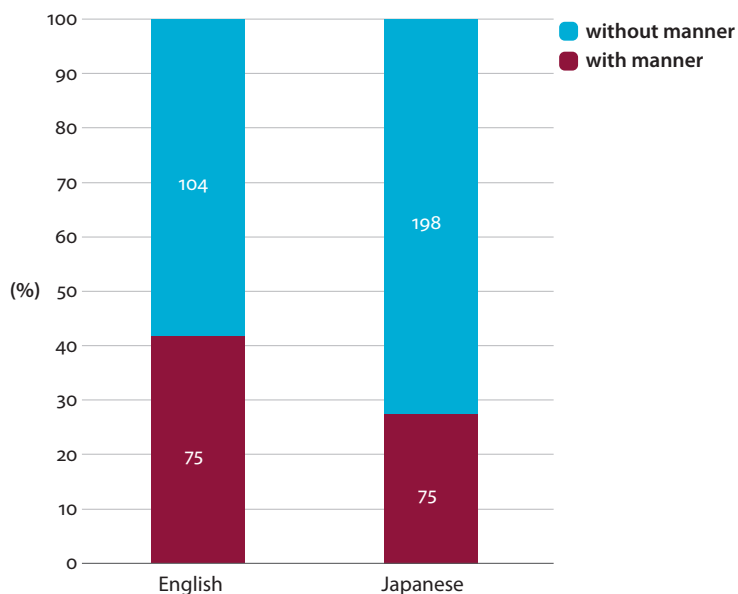
Figure 2. Descriptions of manner in motion event descriptions in frog stories

What kinds of manner expressions did narrators use in the "with manner" responses and how often were those expressions used? Figure 3 shows the average number of manner expressions per narrator in English and Japanese frog stories, with manner expressions divided into: (i) default general, (ii) nondefault general, (iii) conventional specific, and (iv) expressive specific.
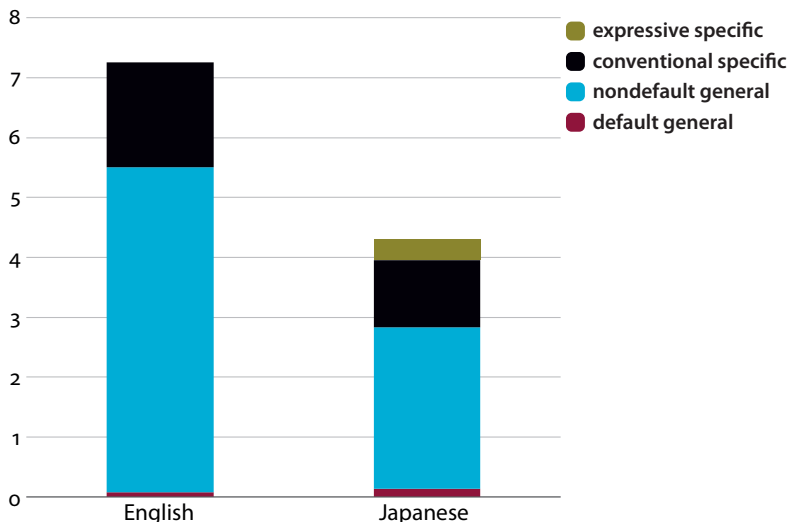
Figure 3. Average number of manner expressions per narrator in frog stories

English frog stories were richer in manner expressions than Japanese frog stories in terms of their overall frequency ($t(33) = 2.25$, $p < .05$, by heteroscedastic t-test).[5] English frog stories were also found to be richer than Japanese frog stories in the frequency of nondefault general manner expressions (homoscedastic t-test: $t(33) = 3.05$, $p < .01$), but the frequency of specific manner expressions showed no significant difference between the two languages (homoscedastic t-test: $t(33) = 0.34$, $p = .73$ ($n.s.$)). Default general manner expressions were very rare in both languages: only a few instances of default manner expressions ('walk') were found (J: 3 tokens; E: 1 token). Expressive expressions were found only in Japanese frog stories, and the difference was statistically significant (heteroscedastic t-test: $t(33) = 2.42$, $p < .05$).

There were 7 references to the sounds related to the motions in Japanese, which account for 7.1% of the manner expressions obtained, while there were 2 instances

---

5.   There was an outlier among the numbers of manner expressions produced by 23 Japanese narrators, with one speaker producing more than 5 times as many manner expressions as the average ($\tau = 4.11$). When the data from this narrator is excluded, the average number of manner expressions in Japanese is down to 3.36, much lower than that in English ($t(32) = 4.55$, $p < .001$ by homoscedastic t-test).

in English, accounting for 2.2% of the manner expressions. These sound descriptions involved mimetics like 'splash' and 'splat'.

Examples of manner expressions are given in (4) and (5). Both the Japanese and English sentences in (4) contain a general manner verb meaning 'run' that describes the manner of the deer's motion.

(4)   a.   Japanese:
           *Otokonoko to   inu wa sonomama **hasiri**-tuzuke-ru   sika kara*
           boy   and dog TOP as.they.were run-continue-NPST deer from
           huri-otos-are-te…
           swing-make.fall-PASS-CONJ
           'The boy and the dog were swung down by the deer that continued to *run*.'
      b.   English:
           *The deer **runs** away with the little boy on him*   (20h_10b059, emphasis added)

In (5), the splashing sound of the two characters is expressed by different syntactic means in the two languages: a mimetic adverbial modifying a path verb in Japanese and a main verb in English. One may argue that mimetics in Japanese compensate for its small repertoire of specific manner verbs, as pointed out by Ohara (2002) and Sugiyama (2005).

(5)   a.   Japanese:
           *Syoonen to   inu wa issyoni   mizutamari ni   **dobon to***
           boy   and dog TOP together puddle   GOAL MIM QUOT
           oti-te   iki-mas-u.
           fall-CONJ go-POL-NPST
           'The boy and the dog are falling together into the puddle *with a plop*.'
      b.   English:
           *[the boy] **splats** in the water with the dog right on top of him* (20j_12-065)

All Japanese and English manner expressions in our data are listed in (6) and (7), respectively. The numbers in parentheses represent the token frequencies of the expressions.

(6)   Japanese:
      a.   Verbs:
           i.   Default general (1 type, 3 tokens):
                 aruk 'walk' (3)
           ii.   Nondefault general (5 types, 60 tokens):
                 ow 'chase' (28), *hasir* 'run' (19), *tob* 'fly' (8), *haw* 'crawl' (3),
                 suber 'slide' (2)
           iii. Conventional specific (3 types, 9 tokens):
                 yozi(-nobor) (twist(-climb)) 'climb up' (6), *kake* 'run briskly' (2),
                 samayow 'wander' (1)

    b.   Adverbials or holophrastic mimetics:
        i.   Conventional specific (10 types, 16 tokens):
            non-mimetic: *issyookenmei* 'diligently' (2), *awatete* 'hurriedly' (1), *ikioi-yoku* 'vigorously' (1)
            mimetic: *kossori (to)* 'stealthily' (4), *sot (to)* 'gently' (3), *yukkuri (to)* 'slowly' (1), *botoQ* 'plop (of solid)' (1), *mosomoso (to)* 'creeping' (1), *dondon* 'steadily' (1), *dobon* 'plop' (1)
        ii.   Expressive specific (8 types, 8 tokens):
            mimetic*: doboon* 'plop (of liquid)' (1), *botyaan* 'plop (of liquid)' (1), *dosaan* 'thud' (1), *gasyaan* 'crash' (1), *kasyaan* 'clatter' (1), *pasyaan* 'splash' (1), *soroori soroori* 'gingerly' (1), *dondon dondon* 'steadily and steadily' (1)

(7)   English:
    a.   Verbs:
        i.   Default general (1 type, 1 token):
            walk (1)
        ii.   Nondefault general (6 types, 65 tokens):
            run (24), *climb* (17), *chase* (15), *crawl* (4), *jump* (3), *fly* (2)
        iii.   Conventional specific (13 types, 20 tokens):
            pop (4), *hop* (3), *sneak* (2), *tumble* (2), *creep* (1), *flap* (1), *limp* (1), *plummet* (1), *splat* (1), *step* (1), *swarm* (1), *tiptoe* (1), *wander* (1)
    b.   Holophrastic mimetic:
        i.   Conventional specific (1 type, 1 token):
            splash (1)

The data show an impressive difference in the syntactic categories of specific manner expressions. All of the general manner expressions in Japanese and English are verbs. On the other hand, only 9 out of 33 specific manner expressions in Japanese are verbs, the rest being adverbials (20 mimetics and 4 non-mimetic), while 19 out of 20 are verbs in English.

In English, 91.9% (86 instances) of the manner verbs were used in the main verb (i.e. head) position. In Japanese, 63.5% (47 instances) of the manner verbs were used in the main verb position, the rest (36.5%, 27 instances) occurred in a position modifying the main verb (e.g. the first verb of a compound verb, or the *-te* verb modifying the main verb). The modifier option was not utilized to a full degree: Japanese frog story data have 227 path verbs and deictic verbs used in the main verb position (within all 271 instances of the motion descriptions), in all of which a manner verb could have been used as a modifier.

One characteristic of Japanese frog stories was the use of expressive expressions. As shown in (6bii), 8 of the Japanese mimetics have expressive morphological/

prosodic features, such as vowel lengthening (*aa*, *oo*, etc.), partly to achieve higher iconicity. This is illustrated by the sentences in (8).

(8) a. ***Gasyaan.*** *Zimen no ue ni bin-goto*
MIM   ground GEN top GOAL jar-with
oti-te-simat-ta-no-des-u.   (vowel lengthening)
fall-CONJ-end.up-PST-NML-POL-NPST
'*Craash*. [The dog] ended up falling on the ground with a jar on.'

b. ***Soroori soroori***, *kaeru-san ga nige-te iki-mas-u.*
MIM   frog-Mr. NOM escape-CONJ go-POL-NPST
'*Gingerly, gingerly*, Mr. Frog escapes and goes away.'
                              (vowel lengthening + stem repetition)

In (8a) the mimetic *gasyaan* has a lengthened vowel unlike the conventional *gasyan*, as is also true of *soroori* in (8b), unlike the conventional *sorori*. All of these appear in positions separated from the main clause. Crucially, these features were totally absent in English, according to the transcription provided in Marchman and Renner (2010). This is as predicted by the correlation between the expressiveness and grammatical realization of mimetics (Section 2.3). It is not totally clear, however, whether the transcription of data in English frog stories was done carefully enough to indicate the presence of expressive features such as vowel lengthening.

A scene-by-scene analysis points to variations among the motion descriptions of different scenes. Figure 4 shows the results from ten major motion events that were described by more than half of the narrators in terms of motion in both languages: (1) Frog steps out of jar, (2) Dog falls out of window onto ground, (3) Boy and dog go out to forest, (4) Owl comes out of tree, (5) Dog runs away from bees
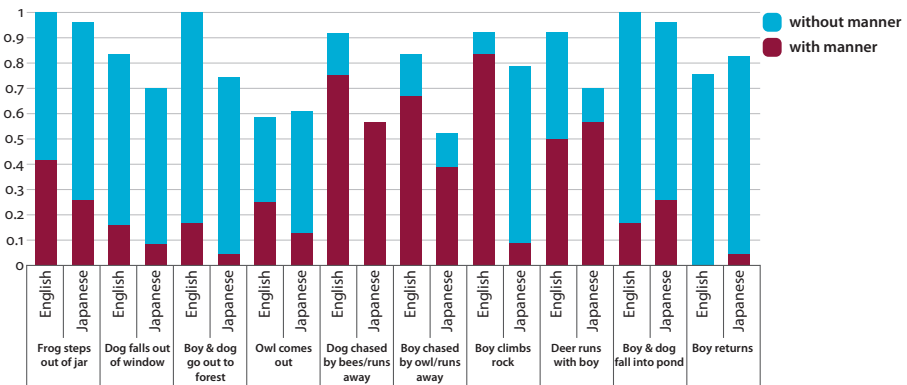
Figure 4. Manner specification in the motion descriptions of ten events in frog stories

(is chased by bees), (6) Boy runs away from owl (is chased by owl), (7) Boy climbs rock, (8) Deer runs with boy on its head, (9) Boy and dog fall into pond, and (10) Boy returns. The figure shows the percentages of narrators who described each scene with and without manner.

The results show interesting differences in the use of manner expressions among scenes. Some motion events elicited more manner expressions in their motion-based descriptions than others. Running/chasing events tended to elicit manner specification in both languages very often (events 5, 6, 8). The events that did not elicit manner expressions include falling events (2, 9), in which the use of manner expressions is not frequent even in English; in many cases, the descriptions have path verbs as the main verb (e.g. *fall*, *otir* 'fall'). Other scenes that did not elicit manner are those motion events in which manner is not explicitly depicted in the pictures of the book. This is true of the events of boy and dog going out into forest (3) and boy returning with frog (10), in which no actual motion is depicted in the pictures but the motion is suggested in the flow of the story, or inferred from the gesture of a character. The frog's escape scene (1) and the owl scene (4) elicited relatively few manner verbs in English; non-manner verbs, such as *escape* and *come (out)*, were used quite often, respectively (*escape* encodes path and purpose, but not manner).

English and Japanese are different to some extent in the motion events that elicited manner specification. The boy's climbing of a rock (7) elicited more manner expressions in English than in Japanese ($p < .001$ by Fisher's exact test), with English speakers almost always using *climb*, which encodes manner (CLAMBERING) as well as path (ASCENDING), but many Japanese speakers failed to convey CLAMBERING with a verb, simply using the verb *nobor* 'go up', though some chose to indicate it in the first verb of a compound verb. On the other hand, the running scenes (5, 6, 8) were described by the Japanese speakers with a manner verb as often as (or even more often than) by English speakers; some of the English speakers preferred to use causative verbs such as *carry* in the deer's running event (8).

The owl scene has been used in Slobin (2006) for a crosslinguistic comparison. In our data this scene elicited manner expressions from 13% of the Japanese narrators, or the 21% of the Japanese narrators who described this scene in terms of motion. These percentages are lower than in English narrators (see Figure 4) but slightly higher than in German narrators (18%, according to Slobin (2006), by the latter method of calculation), although a statistical test cannot be done due to the lack of sufficient information on the German data.[6]

---

6.   Slobin (2006: 66) states that his "data represent all narrators who chose to mention this event, regardless of language, and regardless of morpholexical choice" and we have interpreted this as showing that the percentages in his work show the proportion of those who indicated manner within those who described the scene in terms of motion. We may also note that our count of

3.3   Discussion

This first set of data suggests that English and Japanese tend to be different in terms of the overall frequency of manner expressions. Overall, English speakers chose to use motion-based descriptions for a wider range of events, and manner expressions in more motion-based descriptions. This high frequency of manner specification is seen in the main verb position, where manner verbs are almost always used. Japanese speakers tend to use manner verbs in the main verb position, but not so frequently as modifiers of the main verb, avoiding a complex structure in which a manner verb modifies a path verb or a deictic verb. This avoidance presumably leads to the relative infrequency of manner expressions in Japanese. These results align with the claims made in Slobin (2006).

Another clear difference between the two languages concerns the lexical inventory of specific manner expressions. Japanese specific manner expressions are predominantly adverbials, while general ones are verbs; by contrast almost all manner expressions in English are verbs. These results provide additional support for Slobin's (2006) claims.

However, our data also suggest that manner salience is more complex than previously thought. Our data suggest that one must not be led to believe that English speakers are freely able to express manner in the main verb position in describing all scenes. As noted above, other verbs can often be used in the main verb position, depending on particular motion events described, as is the case with the scene of the boy falling into a pond (*fall*) or the owl coming out of a tree (*come*), suggesting that manner salience depends on when to choose manner verbs over other verbs in the main verb position (see also Morita this volume on this point).

Another notable observation is the fact that the Japanese data contain instances of expressive manner expressions, which were absent in the English data. It is fair to say that the use of such expressions gives a qualitative richness to the manner descriptions in Japanese. Given the small number of instances, however, it is difficult to make generalizations.

The results of this experiment also point to the methodological limitations of frog stories in evaluating manner salience. As mentioned above, different scenes elicit different numbers of manner expressions. This means that reliance on a single scene for crosslinguistic comparison, as in Slobin (2006), can be misleading, and diverse scenes must be considered in order to determine the manner salience of a language. One instance of this is the absence of a clear depiction of walking in

---

manner expressions in the owl scene in English is different from what is reported in Slobin (2006), probably because of difference in the counting of manner expressions or because of the difference in the data set.

the frog story pictures.[7] Presumably because of this absence, we obtained few uses of verbs of walking, and we failed to examine the frequency difference of default manner expressions in the two languages. Furthermore, there are limitations due to the very nature of picture books. As pointed out above, some motion events are only implied in the pictures and manner of motion is often not directly depicted. Frequency of manner expressions may be different if manner is visually presented in real time. Related to this is the fact that sounds are only inferred from the silent pictures, which might have affected the use of mimetics.

Experiment 2 fills these gaps by using video clips with soundtracks, depicting various motion events, including motion in different manners of walking and more specific, highly marked manners.

4.   Experiment 2: Motion with sounds

The second experiment is a production experiment in which participants were asked to verbally describe short videos. One feature of the experiment is the diversity of manners examined. The manners of motion in the videos include walking and more unusual manners such as skipping in human motion clips. On the basis of Oh's (2003) finding in Korean (see Section 2.3), we predicted that many speakers would drop the most unmarked manner of human motion in the videos (i.e. walking). The experiment also includes different manners of object motion, such as a ball rolling and bouncing, which have not been much discussed in manner salience research.

Another feature of the experiment is the use of audio recordings. Previous experimental studies on motion event descriptions (e.g. Fortis et al. 2011; Kopecka and Narasimhan 2012; Oh 2003) have paid little attention to the sounds with which motion events occur despite the fact that we often experience motion events both visually and auditorily in real life (see Sekuler et al. 1997; Meyer and Wuerger 2001 for evidence showing how intimately sounds are related to the perception of motion). This experiment tested whether, as suggested by Experiment 1, Japanese speakers use more expressive manner expressions than do English speakers when describing the motions in videos containing sound.

---

7.   The boy in the pictures may be walking most of the time, but such motion happens mostly in the transitions of pictures, unlike the running of the dog and that of the deer, which are actually depicted.

4.1 Method

Participants were asked to verbally describe 30 short videos in one or two sentences after watching each of them. The test phase followed two practice videos, and the test videos were presented in random order. The stimulus set consists of 25 self- or caused-motion events of a human or nonhuman mover and 5 fillers that do not involve a motion event. Table 2 describes the 30 video clips.

Table 2. The stimulus videos used in Experiment 2

Human motion	Walking	A man walks by.
		A woman in high heels walks quickly down the stairs.
		A man walks by with his keys in his right hand.
		Three men walk out of the room one after another.
		A man walks toward the camera.
		A man with his keys in his right hand walks toward the camera.
	More marked	A man shuffles his feet through pebbles.
		A woman skips down a ramp.
		A man jumps off a low ledge.
		A man stomps up the stairs toward the camera.
		Three men come hurrying into a room.
Object motion	Self-motion	A stone falls into the pond.
		A basketball falls onto a metal plate.
		A leaf falls off a tree.
		A balloon whistles around the room.
		A small ball rolls across a brick ground.
		A small ball bounces down metal stairs.
	Caused motion	A man pushes a cart on an uneven concrete ground.
		A man drags a sleeping bag down the stairs.
		A man tosses a key onto the floor.
		A man flies a paper airplane across the room.
		A woman rolls a basketball down a slope.
		A man drops a coin into a jar.
		A woman drops an empty can down the stairs.
		A man hits a ping pong ball against the wall.
Filler		A woman opens an umbrella and rests it on her right shoulder.
		A man flips through pages of a book.
		A woman dials a rotary phone.
		A man closes a locker door.
		A man slams a notebook onto a desk.

a. A man jumps off a low ledge

b. A stone falls into the pond

Figure 5.   Example videos from Experiment 2

12 native Japanese speakers (3 men and 9 women; ages: 22–50, *M* = 28.5; from west or central Japan) and 12 native English speakers (8 men and 4 women; ages: 20s–50s, *M* = mid-20s; from the United States or the United Kingdom) participated.

4.2   Results

The results of this experiment have been reported in a preliminary way in Akita et al. (2010). In the previous analysis, we examined the data in terms of the over- all frequencies of manner and deictic expressions that occurred. No analysis was made in terms of the frequencies of different types of manner expressions, nor were scene-based analyses of the data conducted. Here, we present our reanalysis of the data, with all manner expressions subcategorized for the discussion in this paper, and with scenes divided into different categories.[8]

Overall results are shown in Figure 6, which exhibits the average number of manner expressions per response in each language, with their subtypes indicated. In contrast to the frog story data, in which manner is very often not indicated in motion event descriptions (see Figure 1), speakers used manner expressions with an average of over 0.8 times per response in this experiment.

There was not much difference between English speakers and Japanese speakers in the total frequencies of manner expressions per response. The data also show

---

8.   We acknowledge the permission of Kyoko H. Ohara, who was one of the co-researchers in the previous stage of this project, for our reanalysis of the data obtained.
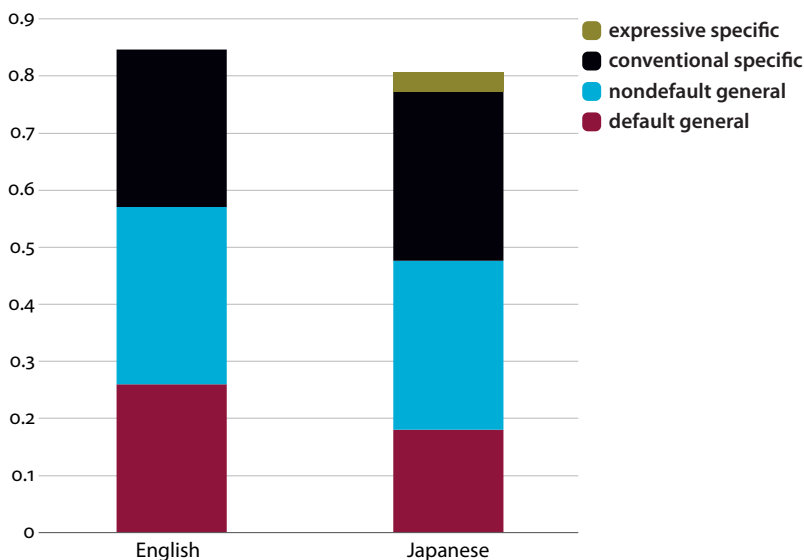
Figure 6. Average frequency of manner expressions per response in Japanese and English (Experiment 2)

that the frequency of default general manner expressions was higher in English than in Japanese $t(22) = 3.17$, $p < .01$. The contrast was absent for the frequencies of nondefault general manner expressions ($t(22) = 1.56$, $p = .13$ (*n.s.*)), and for the frequencies of conventional specific manner expressions ($t(22) = 0.38$, $p = .71$ (*n.s.*)). Expressive specific manner expressions were only found in Japanese, although the crosslinguistic frequency difference did not reach the significance level ($t(11) = 1.34$, $p = .21$ (*n.s.*)). Fisher's exact test for the proportion of general vs. specific manner expressions revealed a slight crosslinguistic difference ($p = .09$), with English speakers using relatively more instances of general manner expressions than Japanese speakers, and Japanese speakers, relatively more instances of specific manner expressions.

The results of an analysis of sound vs. nonsound manners are given in Figure 7, which shows the total number of sound/nonsound manner expressions elicited in each language. We obtained relatively more instances of sound manner expressions than in frog stories. There are some differences between the two languages in terms of the use of sound/nonsound manner expressions. The proportion of sound manner expressions is significantly higher among Japanese speakers than English speakers ($\chi^2(1) = 10.63$, $p < .01$).

Mimetics (both for sound and nonsound manners) account for 52 (52.53%) out of 99 specific expressions in Japanese, consistent with the previous translation studies in which mimetics in Japanese make up for the small size of its specific manner verb lexicon (Ohara 2002; Sugiyama 2005).
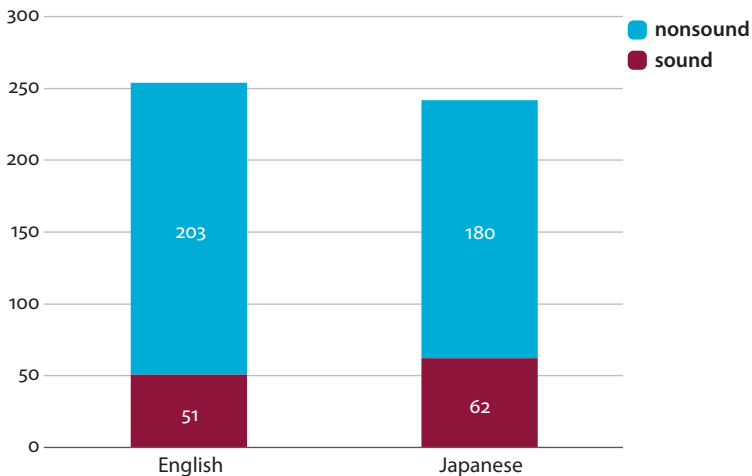
Figure 7. The total number of sound and nonsound manner expressions (Experiment 2)

Examples of manner expressions are given in (9) and (10). The actual videos were cited as still images in Figure 5 above.

(9)   General manner expressions:
   a.   Japanese (used in a compound verb):
      Otokonohito ga   poketto ni   te   o   ire-nagara   dan no
      man   NOM pocket LOC hand ACC put.in-while step GEN
      *ue kara **tobi**-ori-masi-ta.*
      top from jump-go.down-POL-PST
      'A man *jumped* down from the top of a step with [his] hands in [his] pockets.'
   b.   English:
      *A man **jumped** off the short wall.*

(10) Specific manner expressions:
   a.   Japanese (adverbial mimetic):
      Tiisana mono ga   mizu no   tamat-te   i-ru   tokoro
      small   thing NOM water GEN accumulate-CONJ be-NPST place
      *ni   **potyan to**   oti-ta.*(S1)
      GOAL MIM   QUOT fall-PST
      'A small object fell into a pool of water *with a plop*.'
   b.   English:
      *A ball fell into the water. It **plopped** into the water, actually.*

All Japanese verbs and mimetics and English manner verbs that were produced are listed in (11) and (12), respectively.

(11) Japanese:
   a. General expressions (verbs; 8 types, 139 tokens):
   aruk 'walk' (54), *tob* 'fly, jump' (18), *korogar/koroge* 'roll' (17), *korogas* 'roll (causative)' (17), *tobas* 'fly (causative)' (13), *oto o tate* 'make a sound' (11), *hasir* 'run' (5), *isog* 'hurry' (4)
   b. General expressions (adverbs; 2 types, 2 tokens):
   urusaku 'noisily' (1), *yukkuri* 'slowly' (1)
   c. Specific expressions (verbs; 6 types, 33 tokens):
   kake 'run briskly' (13), *sukippu su* 'skip' (12), (*asi o*) *hikizur* 'drag (one's feet)' (6), *zyanpu su* 'jump' (1), *hazum* 'bound' (1), *maw* 'soar' (1)
   d. Specific expressions (adverbial or holophrastic mimetics) (38 types, 53 tokens):
      i. Conventional (28 types, 43 tokens):
      tyari(i)n 'clinking' (5), *pyuu(Q)* 'whizz' (4), *potyan* 'plop' (3), *zyarizyari* '(sound of gravel)' (3), *bataQ* 'thud' (2), *katukatu* 'clicking' (2), *korokoro* 'rolling' (2), *ponpon* 'popping' (2), *gangan* 'clanging' (1), *garagara* 'rattling' (1), *gatagata* 'rattling' (1), *gatagoto* 'rattling' (1), *gatan* 'clunk' (1), *guruguru* 'whirling' (1), *harahara* 'fluttering' (1), *kankan* 'clanging' (1), *karankaran* 'clanging' (1), *katin* 'clink' (1), *konkon* 'knocking' (1), *kotukotu* 'clicking' (1), *petapeta* 'slapping' (1), *pon* 'pop' (1), *poto* 'plonk' (1), *pyon* 'hopping' (1), *ton* 'tapping' (1), *tyariQ* 'clink' (1), *zurizuri* '(sound of footsteps on gravel)' (1)
      ii. Expressive (10 types, 10 tokens):
      dadadadadaaa 'rushing' (1), *dandandandan* 'bamming' (1), *garangarangaran* 'rattling' (1), *gatagatagatagatagata* 'rattling' (1), *patapataaQ* 'pattering' (1), *piiiiiiQ* 'whizz' (1), *sarasarasara* 'swishing' (1), *tontontonton* 'tapping' (1), *zaazaazaa* 'slithering' (1), *zyarazyarazyarazyara* 'jingling' (1)

(12) English:
   a. General (verbs: 8 types, 162 tokens):
   walk (77), *roll* (27), *bounce* (19), *run* (12), *jump* (10), *make sounds* (9), *fly* (7), *bound* (1)
   b. General (adverbs; 5 types, 9 tokens):
   quickly (4), *loudly* (2), *noisily* (1), *quietly* (1), *silently* (1)
   c. Specific (verbs: 34 types, 73 tokens):
   skip (12), *shuffle (one's feet)* (6), *stomp* (6), *drag (one' feet)* (4), *splash* (4), *whistle* (3), *bang* (2), *clang* (2), *clatter* (2), *clip* (2), *hop* (2), *plop* (2), *rattle* (2), *rush* (2), *scream* (2), *bound* (1), *click* (1), *clop* (1), *clump* (1), *crack* (1), *crash* (1), *crunch* (1), *dash* (1), *float* (1), *hiss* (1), *march* (1), *ratter* (1), *ruffle* (1), *saunter* (1), *screech* (1), *slap* (1), *slide (one's feet)* (1), *squeak* (1), *squeal* (1), *tremble* (1)
   d. Specific (adverbs; 2 types, 8 tokens):
   briskly (7), *rapidly* (1)

Manner verbs in English were very frequently expressed in the main verb position (65.9%), while only 21.1% of manner verbs in Japanese (40 out of 190) were used in the main verb, with the rest used as a modifier of the main verb (a path verb or a deictic verb). Unlike Japanese frog story narrators, Japanese-speaking participants of this experiment chose to indicate manner very often by utilizing an optional element modifying the main verb.

As listed in (11bii), many of the Japanese mimetics (19.2%), particularly onomatopoeic ones, were found in their expressive forms. Some examples are cited in (13).

(13)　a.　Vowel lengthening:
　　　　Nanka gomu-huusen ga　piiiiiiQ te…　nandesyoo,
　　　　well　rubber-balloon NOM MIM　QUOT how.to.say
　　　　tobi-mawat-te　i-mas-u.
　　　　fly-go.around-CONJ be-POL-NPST
　　　　'Well, a rubber balloon is flying around *with a long whistle*.'
　　b.　Vowel lengthening + partial reduplication:
　　　　Onnanohito ga　kaidan o　patapataaQ to　oto　o
　　　　woman　NOM stairs　ACC MIM　QUOT sound ACC
　　　　tate-nagara　kake-ori-te　iki-masi-ta.
　　　　make.stand-while run-go.down-CONJ go-POL-PST
　　　　'A woman went running down the stairs making a *pattering* sound.'
　　c.　Stem repetition:
　　　　Daisya ga　gata-gata-gata-gata-gata to　i-u　oto　o
　　　　cart　NOM MIM　QUOT say-NPST sound ACC
　　　　tate-nagara　toot-te　iki-masi-ta.
　　　　make.stand-while pass-CONJ go-POL-PST
　　　　'A cart went by, making a *repetitive rattling* sound.'

No single expressive feature was found in the English manner verbs in (12). This result testifies to the correlation between expressiveness and grammatical realization seen in Section 2.3, given the difference between verbs in English and adverbials in Japanese for the use of expressive forms.

Clearer tendencies were found through a scene-based analysis made in terms of the nature of moving entities and the defaultness of manners involved. Figures 8 and 9 show whether English and Japanese speakers used at least one manner expression for human and object motion scenes, respectively. As shown in Figure 8, English speakers tended to use more manner expressions, especially *walk*, for human motion scenes than Japanese speakers ($\chi^2(1) = 9.95$, $p < .01$). By contrast, as shown in Figure 9, no such crosslinguistic difference was obtained for object motion scenes ($\chi^2(1) = 0.06$, $p = .80$ (*n.s.*)).
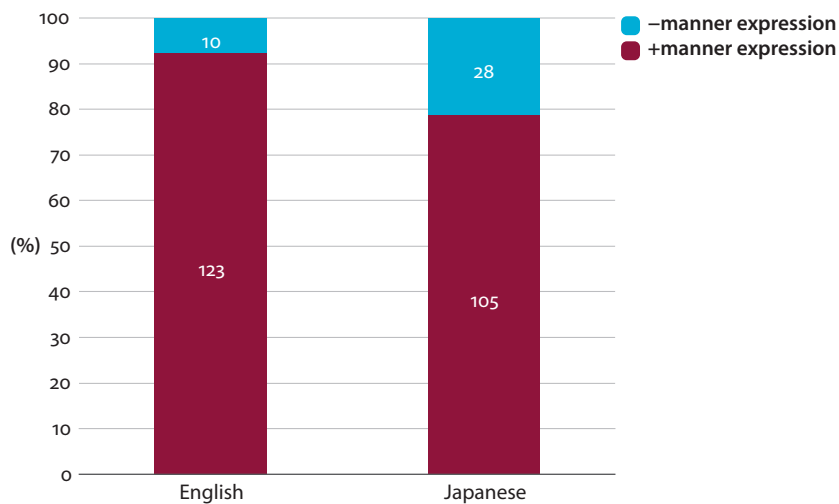
Figure 8. The proportion of descriptions with manner expressions for human motion scenes (Experiment 2)
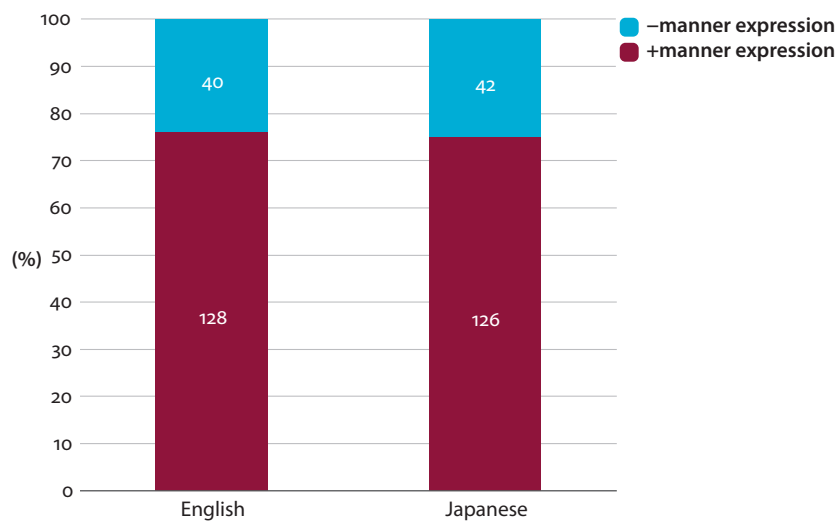
Figure 9. The proportion of descriptions with manner expressions for object motion scenes (Experiment 2)
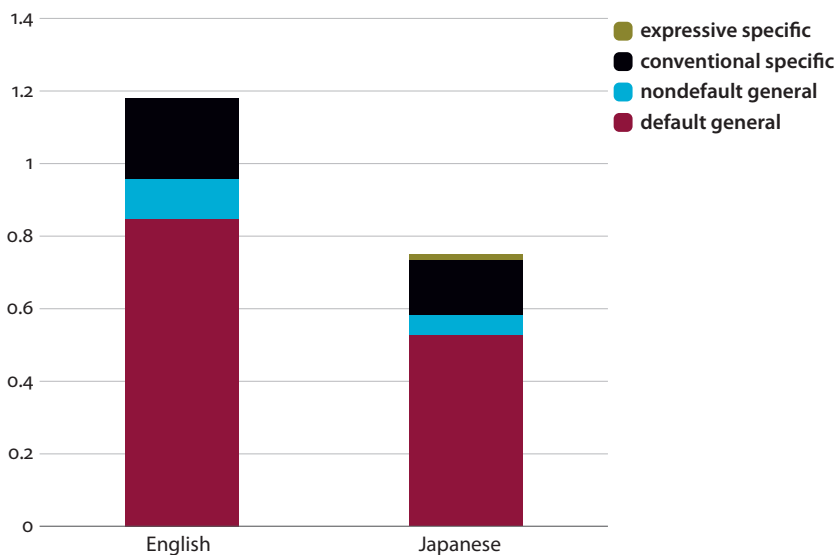
Figure 10. The average frequency of manner expressions per response for walking scenes in Japanese and English (Experiment 2)

Human motion scenes were further divided into walking scenes and non-walking scenes. Data from the walking scenes are presented in Figure 10, which shows the average use of manner expressions per video clip per speaker.

English speakers used more manner expressions than Japanese speakers in describing walking events ($t(15.44) = 4.53$, $p < .001$). Notably, they almost always used the default expression (i.e. *walk*) for each of these walking clips, while Japanese speakers used it much less often ($t(22) = 4.54$, $p < .001$). In almost all cases, the verb *walk* occupied the main verb position in English. It is noteworthy that this was even true of the scenes in which a moving person moves toward the camera, where the verb *come* could have been alternatively used (see Matsumoto et al. 2017).

Non-walking human motion scenes did not exhibit significant difference between the two languages ($t(22) = 0.34$, $p = .74$ (*n.s.*)), as shown in Figure 11, suggesting that nondefault manner elicits reference to it in similar ways in the two languages, when manner is visually presented in motion.

Object motion, whether it is self-motion or caused motion, gives a slightly different picture, as shown in Figures 12 and 13. In both cases, English speakers did not use more manner expressions than Japanese speakers ($t(13.52) = 0.38$, $p = .71$ (*n.s.*) for object self-motion, and $t(22) = 0.26$, $p = .80$ (*n.s.*) for object caused motion). The use of specific manner in object caused motion is rare in English.
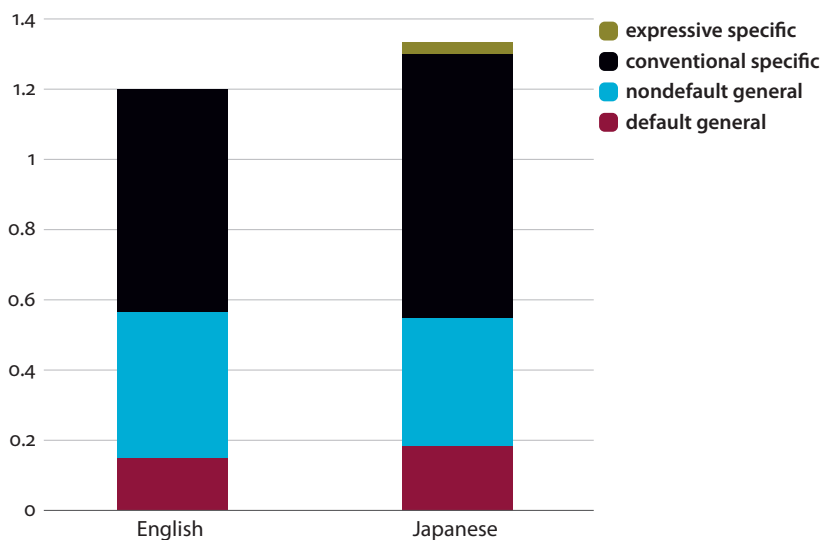
Figure 11. The average frequency of manner expressions per response for non-walking human motion scenes in Japanese and English (Experiment 2)
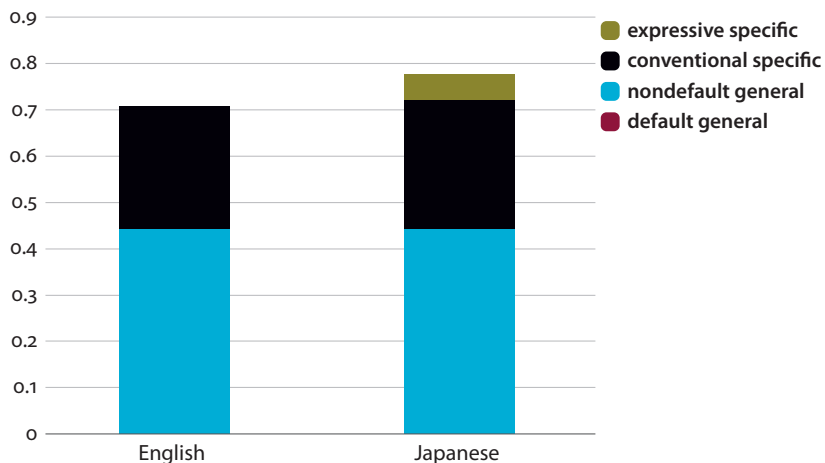
Figure 12. The average frequency of manner expressions per response for object self-motion scenes in Japanese and English (Experiment 2)
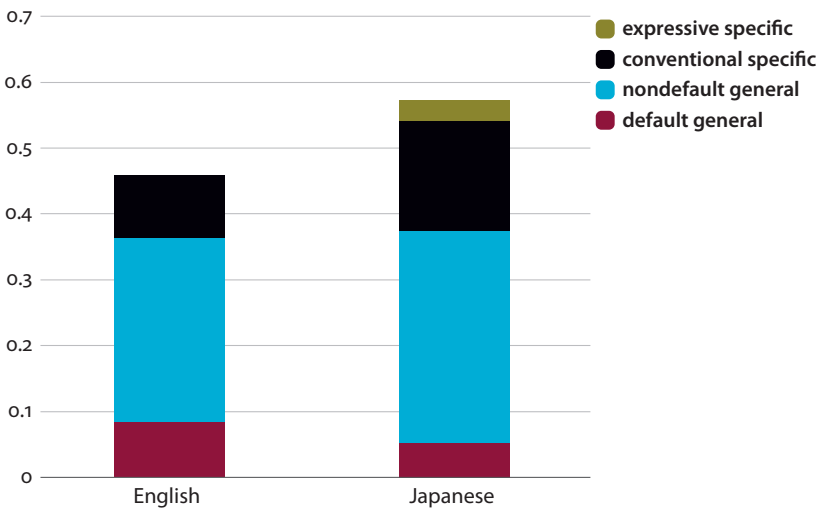
Figure 13. The average frequency of manner expressions per response for object caused-motion scenes in Japanese and English (Experiment 2)

Object motion scenes differ from human motion scenes in that sound manner expressions are used relatively more often in both languages. Sound manner expressions account for 12.1% of the total manner expressions for human motion scenes in English and 14.9% in Japanese, but they account for 33.7% of the total manner expressions for object motion scenes in English and 41.7% in Japanese. These differences were statistically significant (English: $\chi^2(1) = 17.08$, $p < .001$; Japanese: $\chi^2(1) = 16.86$, $p < .001$).

Object motion scenes elicited fewer manner expressions than human motion scenes in English ($t(13.27) = 5.00$, $p < .001$) (cf. Figures 10–13). This is particularly true in the three falling scenes in our experiment, for which manner expressions are used only 36.1% in English, almost all of which describe the sounds made. The responses to these scenes are distinct in that path verbs tend to occupy the main verb (i.e. head) position not just in Japanese but also in English, with the verb *fall* accounting for 66.7% of the main verbs used.

The low frequency of manners in object caused-motion scenes in Figure 11 is due partly to the use of Means-of-Causation verbs in the main verb position, as in (14a). Japanese speakers also used Means verbs, but often with mimetics describing the sound that the moving objects make, as in (14b).

(14)   a.   *A man **tosses** a key on the ground.*
       b.   *Kagi ka nanika o   yuka ni   **tyariin to**   nage-ru.*
            key   or   what   ACC floor GOAL MIM   QUOT throw-NPST
            '[One] *throws* a key or something onto the floor, making a *clinking* sound.'

4.3   Discussion

English turned out to be not so much different from Japanese in terms of the overall token frequency of manner expressions in the present experiment. This can be attributed to the nature of the task used. Unlike the frog story elicitation of motion descriptions, speakers in this experiment were visually presented with the actual manner of motion. In addition, they were asked to describe each motion event, one at a time, and therefore participants in this experiment were expected to describe aspects of a motion event, unlike frog story narrators who had more freedom in limiting the information they conveyed. These differences presumably led to a higher frequency of manner indications in Japanese speakers in this experiment.

However, a closer look at our data reveals interesting differences between the two languages. First, Japanese speakers use relatively more sound manner expressions than English speakers in comparison to nonsound manner expressions. Second, the manner frequency depends on the nature of the particular motion events described. The walking events elicited a clear difference between the two languages: the use of the default general manner expression for the walking events is clearly more frequent in English than in Japanese. Manner expressions used by Japanese speakers tend to be more specific than those of English speakers; Japanese speakers less often used the default general manner expression for walking scenes, and more often used specific manner expressions for object motion, for which they sometimes used expressive manner expressions. These results suggest that Japanese manner expressions tend to be qualitatively richer in information.

Our results suggest that finer-grained classification of manner expressions is useful in characterizing manner frequency. This includes the distinction between sound and nonsound manner expressions, as well as the distinction of defaultness and expressivity in addition to specificity.

The special status of the default general manner expression in Japanese can be seen in the lexicalization of compound verbs. Japanese has productive verb-verb compounds, typically combining a manner verb and a path verb, such as *hasiri-der* (run-exit) 'run out'. However, the default manner verb *aruk* 'walk' does not participate in compounding (e.g. **aruki-der* (walk-exit)). Instead, the participial form *arui-te* must be used to modify the path verb to convey the same idea. Chen and Matsumoto (2018) argue that this lack of compounds with *aruk* is because of the default status of walking in human motion. Given this default status, the simple use of a path verb can be interpreted as indicating that the motion is executed in a non-special manner (e.g. walking), making the existence of compound verbs with *aruk* unnecessary.

5.   Typological implications

The two cross-linguistic experiments have revealed some phenomena consistent with previous discussions arising from the typology based on path coding positions. At the same time, we have uncovered some phenomena that are not necessarily congruent with the typology. Here, we discuss the role of path coding positions as an explanation of manner salience differences among languages.

The high frequency of manner expressions in English has been discussed with respect to the typology based on path coding positions (Slobin 1996). Path coded in prepositions and particles allows manner to be expressed in the main verb, even when it is a default manner. At the same time, our data suggest that it is a mistake to believe that manner can be freely expressed in the main verb position in English under all circumstances. English does have deictic verbs and some path verbs that can occur in the main verb position. Our data suggest that falling events are very often expressed with path verbs in the main verb position, and in such a case path wins the competition against manner for the main verb position. Competition between manner and deixis is subtler. English is known as a language that favors a manner verb over a deictic verb under normal circumstances (Matsumoto 2017), and our finding from the scene of walking toward the camera in Experiment 2 is consistent with this. Moreover, Matsumoto et al. (2017) suggest that the appearance out of a closed space favors the use of *come (out)*, which is consistent with the owl scene description in the frog stories, which elicited more instances of *come* than manner verbs. Once the main verb position is filled by a non-manner verb, manner may not be expressed unless perceived as necessary. Given these cases, manner frequencies may depend on the pattern of choice of manner verbs vs. other verbs in the main verb position where competition occurs. English does allow the use of non-manner verbs under certain circumstances (e.g. situations of falling or appearing).

The role of default manner expressions in overall manner frequencies and the role of competition invite broader typological investigations. In a related work whose preliminary findings are reported in Matsumoto et al. (2013), we conducted an experiment in 17 languages, using video clips that differ in terms of three parameters of motion – manner (walking, running, and skipping), path (to, into, and up), and deixis (toward the speaker/camera, away from the speaker/camera, and deixis-neutral). The English and Japanese results are consistent with the present results. Walking was significantly more often left unmentioned than the other two manners of motion in both Japanese and English, but especially so in Japanese. Presumably, this difference can be attributed to the difference in path coding positions: Path is expressed in prepositions and other head-external elements in English, allowing manner to fill the main verb slot, even when the manner information is predicted from the context, unless specific circumstances lead to the use of a non-manner verb in the main verb position.

The frequency of default manner verbs in other languages suggests that the frequency contrast we reported for Japanese and English can be extended to other languages of the same typological types, but only to some extent. Languages in which path is coded in head-external elements, such as German and Russian, indeed tend to refer to both default and nondefault manner expressions, whereas those languages that code path in the main verbs, such as Sidaama, Italian, and French indeed drop default manner often (see Morita this volume for French). However, there are languages that behave differently. Hungarian and Newar, both head-external path-coding languages, omit default manner about 60% of the time. Why are these languages different?

As suggested earlier, there is a mistake in the assumption made in the logic leading from head-external path coding to manner salience. First, in some head-external path-coding languages, the main verb position may be regularly filled by a light verb or a deictic verb, and so manner is not expressed in this position. Kathmandu Newar (Matsuse this volume) is an example, in which path is expressed by case markers and/or adverbs, with deixis in the main verb; manner is expressed outside the main verb root (a verb-based adverbial or a nonhead element of a compound verb). In fact, Kathmandu Newar has a relatively low manner frequency, frequently dropping 'walking' information (Matsuse, personal communication). What contributes to manner salience is *where manner is typically expressed*, not where path is expressed. Note that manner in Newar is not subordinate *to path*, and so what counts is not the relative position of manner with respect to path, unlike what Slobin (2004) states.

Second, in other head-external path-coding languages manner may be expressed in the main verb position but the slot can be occupied by some other verbs as well, and so manner may not be expressed freely. Hungarian is an example, in which manner verbs usually occupy the main verb slot, but they give way to deictic verbs in the descriptions of walking events, unlike what we found in English (Eguchi this volume). Manner salience appears to be dependent on such preference of manner over other competing components. Koga (2017) argues that the absence of competition for the main verb position for manner is an important factor for the frequency of manner expressions, based on a comparison of Russian, German, English, and Japanese (see Morita this volume for additional discussion of competition).

Another aspect of manner salience potentially related to the typology based on path coding positions concerns the expressions of sound manners and expressiveness. The fact that Japanese has a rich lexicon of frequently used sound mimetics may be partially related to its predominant path coding position. If path occupies the main verb position, then manner should be in other positions, typically the adverbial, which is suitable for expressive expressions, due to the correlation between expressiveness and grammatical realization. It should be noted, however, that manner can also be expressed in adverbials in some head-external path-coding

languages, as in Newar. Again, what is important is where manner is typically expressed, not where path is expressed. In addition, it may be true that known mimetic-rich languages are localized to the verb-framed or head path-coding language group (Wienold 1995), but not all head path-coding languages have a developed mimetic inventory (e.g. Romance languages). Thus, the salience of mimetics appears to have an incomplete correlation with the typology based on path coding positions.

6. Conclusion

In this chapter, we have proposed a fine-grained analysis of manner salience on the basis of two contrastive studies in Japanese and English. We argued that a finer-grained classification of manner expressions involving defaultness and expressivity, as well as the distinction of sound vs. nonsound manner expressions, is necessary in capturing patterns in the use of manner expressions. The revised classification of manner expressions allowed us to develop a complex picture of the typology of manner salience.

Our discussion suggests that different factors contribute to the frequencies of manner expressions: status of manner (default or otherwise), the availability of visual information of manner, etc. Manner salience is not so much determined by the path coding positions, as the position of manner indications. In addition, it is affected by the way manner competes with path and deixis for expression in particular morphosyntactic positions such as the main verb; this competition influences whether manner can be expressed without constraint.

Another important implication is that languages may be different in the quality of manner information they can convey. Japanese speakers may not refer to manner as often as English speakers, but when they do, they tend to convey specific information, often in an expressive way. Such expressive expressions may be frequent in some of the languages in which manner is expressed through adverbial means, which is preferred for the expression of expressiveness.

We hope that future research finds how many parameters the typology of manner salience consists of and how they are correlated with each other. More specifically, we have to take a closer look at the semantics of nondefault conventional manner expressions, which appears to be far more complex than "general vs. specific" (see Boas 2008). The discussion may also benefit from a consideration of default manner expressions for movers other than human adults, such as babies, birds, fish, airplanes, and balloons. Such considerations will reveal more about the different degrees to which speakers of different languages use manner expressions in describing motion events.

Acknowledgements

Funding information

Abbreviations

ACC	accusative	NPST	nonpast
CONJ	conjunctive	PASS	passive
COP	copula	POL	polite
GEN	genitive	PST	past
MIM	mimetic	Q	first half of a geminate cluster
NML	nominalizer	QUOT	quotative
NOM	nominative	TOP	topic

References

Akita, K. 2017. The typology of manner expressions: A preliminary look. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (39–60). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/hcp.59.03aki

Akita, K., Matsumoto, Y., & Ohara, K. H. 2010. Idoo-hyoogen no ruikeiron ni okeru tyokuziteki-keiro-hyoogen to yootai-goi-repaatorii [Deictic path expressions and manner lexicon in the typology of motion expressions]. In T. Kageyama (Ed.), *Lexicon Forum*, No. 5 (1–25). Tokyo: Hituzi Syobo.

Beavers, J., & Koontz-Garboden, A. 2017. Result verbs, scalar change, and the typology of motion verbs. *Language*, 93, 842–876. https://doi.org/10.1353/lan.2017.0060

Berthele, R. 2013. Disentangling manner and path: Evidence from varieties of German and Romance. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the coding of motion events* (55–75). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/hcp.41.03ber

Boas, H. C. 2008. Toward a frame-constructional approach to verb classification. *Revista Canaria de Estudios Ingleses*, 57, 17–48.

Cardini, F.-E. 2008. Manner of motion saliency: An inquiry into Italian. *Cognitive Linguistics*, 19(4), 533–569. https://doi.org/10.1515/COGL.2008.021

Chen, Y.-T., & Matsumoto, Y. 2018. *Nihongo-goiteki-hukugoo-doosi no imi to taikei: Konsutora-kusyon-keitairon to hureemu-imiron* [The meaning and system of lexical compound verbs in Japanese: Construction morphology and frame semantics]. Tokyo: Hituzi Syobo.

Dingemanse, M. 2011. The meaning and use of ideophones in Siwu. Ph.D. dissertation, Max Planck Institute for Psycholinguistics & Radboud University.

Dingemanse, M. 2017. Expressiveness and system integration: On the typology of ideophones, with special reference to Siwu. *STUF*, 70(2), 363–384.

Dingemanse, M., & Akita, K. 2017. An inverse relation between expressiveness and grammatical integration: On the morphosyntactic typology of ideophones, with special reference to Japanese. *Journal of Linguistics*, 53(3), 501–532. https://doi.org/10.1017/S002222671600030X

Doyle, A. C. 1892. *The adventures of Sherlock Holmes*. (K. Nobuhara, trans., 1953. *Syaarokku Hoomuzu no booken*.) Tokyo: Shinchosha.

Fillmore, C. J. 1975. An alternative to checklist theories of meaning. *Proceedings of the First Annual Meeting of the Berkeley Linguistics Society*, 123–131.

Fortis, J. M., Grinevald, C., Kopecka, A., & Vittrant, A. 2011. L'expression de la trajectoire: perspectives typologiques. *Faits de Langues*, 38, 33–41.
https://doi.org/10.1163/19589514-038-02-900000004

Goldberg, A. E., & Jackendoff, R. 2004. The English resultatives as a family of constructions. *Language*, 80, 532–568. https://doi.org/10.1353/lan.2004.0129

Hamano, S. 1998. *The sound-symbolic system of Japanese*. Stanford, CA: CSLI Publications.

Hinton, L., Nichols, J., & Ohala, J. J. 1994. *Sound symbolism*. Cambridge: Cambridge University Press.

Ibarretxe-Antuñano, I. 2006. *Sound symbolism and motion in Basque*. München: LINCOM Europa.

Ibarretxe-Antuñano, I. 2009a. Lexicalisation patterns and sound symbolism in Basque. In J. Valenzuela, A. Rojo, & C. Soriano (Eds.), *Trends in cognitive linguistics: Theoretical and applied models* (239–254). Hamburg: Peter Lang.

Ibarretxe-Antuñano, I. 2009b. Path salience in motion events. In J. Guo, E. Lieven, N. Budwig, S. Ervin-Tripp, K. Nakamura, & Ş. Özçalışkan (Eds.), *Crosslinguistic approaches to the psychology of language: Research in the tradition of Dan Isaac Slobin* (403–414). New York: Psychology Press.

Iwata, S. 2006. Where there's a sound, there's motion: Two types of path PPs that appear after verbs of sound emission. Paper presented at the Fourth International Conference of Construction Grammar, University of Tokyo, 3 September 2006.

Jackendoff, R. 1985. Multiple subcategorization and the theta-criterion: The case of *climb*. *Natural Language and Linguistic Theory*, 3, 271–295. https://doi.org/10.1007/BF00154264

Kakehi, H., Tamori, I., & Schourup, L. 1996. *Dictionary of iconic expressions in Japanese*. Berlin & New York: Mouton de Gruyter. https://doi.org/10.1515/9783110809046

Kita, S. 1997. Two-dimensional semantic analysis of Japanese mimetics. *Linguistics*, 35(2), 379–415. https://doi.org/10.1515/ling.1997.35.2.379

Koga, H. 2017. Niti-ei-doku-ro-go no ziritu-idoo-hyoogen: Taiyaku-koopasu o motiita hika-ku-kenkyuu [Self-motion expressions in Japanese, English, German, and Russian: A comparative study using translation corpora]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (303–336). Tokyo: Kurosio.

Kopecka, A., & Narasimhan, B. (Eds.) 2012. *Events of putting and taking: A crosslinguistic perspective*. Amsterdam: John Benjamins. https://doi.org/10.1075/tsl.100

Levin, B. 1993. *English verb classes and alternations: A preliminary investigation*. Chicago: University of Chicago Press.

Levin, B., Song, G., & Atkins, B. T. S. 1997. Making sense of corpus data: A case study of verbs of sound. *International Journal of Corpus Linguistics*, 2, 23–64.
https://doi.org/10.1075/ijcl.2.1.04lev

Malt, B. C., Ameel, E., Imai, M., Gennari, S. P., Saji, N., & Majid, A. 2014. Human locomotion in languages: Constraints on moving and meaning. *Journal of Memory and Language*, 74, 107–123.
https://doi.org/10.1016/j.jml.2013.08.003

Marchman, V., & Renner, T. 2010. Frogs English Slobin Corpus. *TalkBank*. http://www.language-archives.org/item/oai:childes.talkbank.org:Frogs-English-Slobin

Matsumoto, Y. 1997. Kuukan-idoo no gengo-hyoogen to sono kakutyoo [Linguistic expressions of motion in space and their extensions]. In S. Tanaka & Y. Matsumoto, *Kuukan to idoo no hyoogen* [Expressions of space and motion], 125–230. Tokyo: Kenkyusha.

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In S. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A Festschrift for Masaru Kajita* (403–417). Tokyo: Kaitakusha.

Matsumoto, Y. 2017. Nihongo ni okeru zisyoo-hyoogen-taipu to keiro no hyoogen [Event-based expression types and expressions of path in Japanese] (247–273). In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Matsumoto, Y. 2018. Motion event descriptions in Japanese from typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics*. Berlin: Mouton. https://doi.org/10.1515/9781614514077-010

Matsumoto, Y., Akita, K., Andreani, F., Eguchi, K., Imazato, N., Kawachi, K., Matsuse, I., Nagaya, N., Morita, T., Takahashi, K., Takahashi, R. & Yoshinari, Y. 2013. Crosslinguistic tendencies in the intralinguistic variations of motion descriptions: An experimental study of manner, path, and deixis. Presented at the 12th International Cognitive Linguistics Conference, University of Alberta, Edmonton, Alberta, Canada, 28 June 2013.

Matsumoto, Y., Akita, K. & Takahashi, K. 2017. The functional nature of deictic verbs and the coding patterns of Deixis: An experimental study in English, Japanese, and Thai. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages and applications* (95–122). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.05mat

Matsuse, I. This volume. The distinct coding of Deixis and Path in Kathmandu Newar.

Mayer, M. 1969. *Frog, where are you?* New York: Dial Press.

Meyer, G. F., & Wuerger, S. M. 2001. Cross-modal integration of auditory and visual motion signals. *Neuroreport*, 12, 2557–2560. https://doi.org/10.1097/00001756-200108080-00053

Morita, T. This volume. Attraction of attention in perceived motion events weighed against typology and cognitive cost: An experimental study of French.

Nuckolls, J. B. 1996. *Sounds like life: Sound-symbolic grammar, performance, and cognition in Pastaza Quechua*. New York: Oxford University Press.

Oh, K.-J. 2003. Language, cognition, and development: Motion events in English and Korean. Ph.D. dissertation, University of California, Berkeley.

Ohara, K. H. 2002. Linguistic encodings of motion events in Japanese and English: A preliminary look. *The Hiyoshi Review of English Studies*, 41, 122–153. Keio University.

Özçalışkan, Ş., & Slobin, D. I. 2000. Expression of manner of movement in mono-lingual and bilingual adult narratives: Turkish vs. English. In A. Göksel & C. Kerslake (Eds.), *Studies on Turkish and Turkic languages* (253–262). Wiesbaden: Harrassowitz Verlag.

Schaefer, R. P. 2001. Ideophonic adverbs and manner gaps in Emai. In F. K. E. Voeltz & C. Kilian-Hatz (Eds.), *Ideophone* (339–354). Amsterdam & Philadelphia: Benjamins. https://doi.org/10.1075/tsl.44.26sch

Sekuler, R., Sekuler, A. B., & Lau, R. 1997. Sound alters visual motion perception. *Nature*, 385, 308–308. https://doi.org/10.1038/385308a0

Slobin, D. I. 1996. Two ways to travel: Verbs of motion in English and Spanish. In M. Shibatani & S. A. Thompson (Eds.), *Grammatical constructions: Their form and meaning*. Oxford: Clarendon Press.

Slobin, D. I. 1997. Mind, code, and text. In J. Bybee, J. Haiman, & S. A. Thompson (Eds.), *Essays on language function and language type: Dedicated to T. Givón* (437–467). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/z.82.24slo

Slobin, D. I. 2000. Verbalized events: A dynamic approach to linguistic relativity and determinism. In S. Niemeier & R. Dirven (Eds.), *Evidence for linguistic relativity* (107–138). Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.198.10slo

Slobin, D. I. 2004. The many ways to search for a frog. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Hillsdale, NJ: Lawrence Erlbaum.

Slobin, D. I. 2006. What makes manner of motion salient?: Explorations in linguistic typology, discourse, and cognition. In M. Hickmann & S. Robert (Eds.), *Space in languages: Linguistic systems and cognitive categories* (59–81). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/tsl.66.05slo

Slobin, D. I., Ibarretxe-Antuñano, I., Kopecka, A., & Majid, A. 2014. Manners of human gait: A crosslinguistic event-naming study. *Cognitive Linguistics*, 25(4), 701–741. https://doi.org/10.1515/cog-2014-0061

Snell-Hornby, M. 1983. *Verb-descriptivity in German and English: A contrastive study in semantic fields*. Heidelberg: Carl Winter Universitätsverlag.

Sohn, H.-M. 1994. *Korean*. London: Routledge.

Stosic, D. 2009. La notion de 'manière' dans la sémantique de l'espace. *Langages*, 175, 103–121. https://doi.org/10.3917/lang.175.0103

Sugiyama, Y. 2005. Not all verb-framed languages are created equal: The case of Japanese. *Proceedings of the Thirty-First Annual Meeting of the Berkeley Linguistics Society*, 299–310.

Talmy, L. 1991. Path to realization: A typology of event conflation. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society*, 480–519. https://doi.org/10.3765/bls.v17i0.1620

Talmy, L. 2000. *Toward a cognitive semantics, Volume II: Typology and process in concept structuring*. Cambridge, MA: The MIT Press.

Tamura, Y.-S. 2006. Characteristics of English sound-emission path construction: A prototype cross-linguistic account. In M. Yamanashi (Ed.), *Studies in cognitive linguistics* 5 (209–242). Tokyo: Hituzi Syobo.

Toratani, K. 2012. The role of sound-symbolic forms in Motion event descriptions: The case of Japanese. *Review of Cognitive Linguistics*, 10(1), 90–132. https://doi.org/10.1075/rcl.10.1.03tor

Tsujimura, N., & Deguchi, M. 2007. Semantic integration of mimetics in Japanese. *Papers from the Twenty-Ninth Annual Meeting of the Chicago Linguistic Society*, 339–353.

Verkerk, A. 2013. *Scramble, scurry* and *dash*: The correlation between motion event encoding and manner verb lexicon size in Indo-European. *Language Dynamics and Change*, 3, 169–217. https://doi.org/10.1163/22105832-13030202

Voeltz, F. K. E., & Kilian-Hatz, C. (Eds.) 2001. *Ideophones*. Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/tsl.44

Wienold, G. 1995. Lexical and conceptual structures in expressions for movement and space: With reference to Japanese, Korean, Thai, and Indonesian as compared to English and German. In U. Egli, P. Pause, C. Schwarze, A. von Stechow, & G. Wienold (Eds.), *Lexical knowledge in the organization of language* (301–340). Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.114.14wie

Zwicky, A. M., & Pullum, G. K. 1987. Plain morphology and expressive morphology. *Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society*, 330–339. https://doi.org/10.3765/bls.v13i0.1817

Attraction of attention in perceived motion events weighed against typology and cognitive cost

An experimental study of French

Takahiro Morita

Kyoto University

This chapter explores construction types and the frequency of the use of optional syntactic elements in French motion descriptions. In Talmy's typology on Satellite- vs. Verb-framed languages, French is characterized as using the construction type of verb-framed languages for motion events, and according to his principles on the correlation between the fore- and backgroundedness of semantic components of motion and the cognitive cost of expressing them, manner and other concepts are expected to occur less frequently in foregrounded positions outside of the main verb than in backgrounded position in the main verb. This chapter shows, through an experimental method, that facts in French are more complex, and that the attraction of attention in perceived motion events has an impact on the choice of construction types and motivates manner and deixis to be expressed more frequently in optional syntactic elements under certain circumstances than Talmy's principles would predict.

Keywords: foregrounding and backgrounding, frequency, main verb, optional syntactic elements

1. Introduction

The typology proposed by Talmy (1991, 2000) distinguishes two types of languages according to the morphosyntactic instantiation of the path information of motion events: verb-framed languages and satellite-framed languages. French, a Romance language, is categorized as a verb-framed language, in which path is expressed by the main verb, and manner by an adverbial element such as a prepositional phrase or a gerundive verb.

For more than two decades since the first proposition of this typology, many studies on motion events have been dedicated to the theoretical reframing of the typology, the recognition of intratypological variations, or the discovery of intermediate classes of language types. For example, Matsumoto (2003, 2017) has proposed a modification using the head vs. head-external distinction instead of the main verb vs. satellite distinction for expressing path of motion. Slobin (2004, 2006) has looked at other kinds of manifestations of path, which led to his proposal of a third type of languages called "equipollently framed languages," wherein path and manner are expressed by forms of syntactically "equal" status. Ibarretxe-Antuñano (2004, 2009), Huang and Tanangkingsing (2005), Sugiyama (2005), Morita (2011), and others have explored variations among languages of the same typological type.

French and other Romance languages are generally regarded as verb-framed, but counterexamples to the verb-framed pattern in Romance languages have been reported in the literature (e.g. Aske 1989). Many previous studies on French motion event descriptions have identified the use of manner verbs in the main verb position in constructions similar to those found in satellite-framed languages (Aurnague 2008; Beavers et al. 2010; Cummins 1996; Fong and Poulin 1998; Kopecka 2004, 2006; Morita 2009, 2011, *inter alia*); even when the main verb is a manner verb, French prepositions seem to introduce a path in certain sentences. Thus French is considered to use the patterns of a satellite-framed language to some extent.

Strictly speaking, however, since Talmy (2000: 102) defines a satellite as "the grammatical category of any constituent other than a noun phrase or prepositional phrase complement that is in a sister relation to the verb root", the French prepositions are not satellites to the verb, but the head of a prepositional phrase. In this chapter, I use the term "satellite-framed" when a preposition expresses path overtly as in *marcher vers* 'walk toward' or *courir jusqu'à* 'run up to' for the purpose of convenience, at the expense of terminological rigor.

This chapter focuses on two issues. First, it identifies factors that have an impact on the choice of construction types, that is, the choice of what concept is expressed in the main verb in French. According to Talmy's classification, it is expected that path is encoded in the main verb and manner in adverbial constituents. Prior studies, however, already mentioned the constructional variations in French, and found that path verbs and manner verbs can occur in the main verb slot. This chapter investigates factors through which the speakers select either path or manner to be expressed in the main verb when describing a perceived motion event. That is to say, the aim is not to determine the typological status of French, but to elucidate factors that lead to variations in the choice of expression patterns of the spatial concepts in motion event descriptions. To that end, I use a speech production experiment based on video elicitation that I present in detail in Section 3.1.

The discussion of the first issue, the elucidation of the factors that influence the choice of construction used in describing a perceived motion event, leads to the second issue: that of how frequently concepts not expressed in the main verb are expressed versus omitted in optional syntactic constituents such as prepositions and gerundive verbs. This question can be examined in light of the principles proposed by Talmy (2000) regarding the correlation between the fore- and backgroundedness of each semantic component and the cognitive cost of expressing it.

This chapter argues that both of the two issues are closely related to the "attraction of attention" in described motion events. The attraction of attention refers to the idea that a motion event may have certain characteristics that attract speakers' attention. When a motion event involves an anomalous manner of motion or when a motion is directed toward a speaker, it draws more attention. Conversely, the default manner of human motion, "walking", draws less attention than "skipping" or "crawling", and speakers assign less importance to motion in directions irrelevant to the speaker (see Akita and Matsumoto, this volume). When a motion contains a specific path involving a boundary crossing or verticality, such a path registers more attention from speakers than a horizontal path or one without any boundary. Thus, a motion event may contain specific perceptual characteristics in terms of a deictic direction, manner, or path, which attract more attention than other components. The attraction of attention may play a role not just as a factor that influences the choice of construction types, but also as a factor that motivates the frequent expression of concepts in optional syntactic elements, rather than in the main verb. I propose that this principle of the attraction of attention partially contradicts Talmy's typology and principles, which I discuss in Section 2.2.

This chapter is organized as follows: Section 2 reformulates this chapter's main questions in detail; Section 2.1 concentrates on the first question regarding the constructional variation, and Section 2.2 addresses the question about the cognitive cost of using an optional syntactic element. Section 3 presents the speech production experiment and its results. Section 4 discusses how these results relate to the two questions. Finally, Section 5 sums up the chapter.

2.   French motion event descriptions

2.1   Constructional variation in French motion descriptions

French is usually categorized as a verb-framed language. The typical structure of a French motion event description follows the schema illustrated in Figure 1, which is reflected in the examples in (1).

			PP/Adverb/
SYNTACTIC ELEMENTS	Subject NP Main Verb PP/Object NP		Gerundive
CONCEPTS	Figure Motion+Path Ground		Co-event
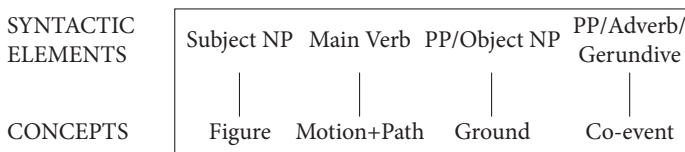
Figure 1. Syntax-concept mapping of the verb-framed construction in French

(1)   a.   *Jean est entré dans la   salle (en courant).*
            Jean enter.PST in   the room (run.GER)
            'Jean entered the room (running).'
     b.   *Jean est sorti de la   salle (en courant).*
            Jean exit.PST of the room (run.GER)
            'Jean exited the room (running).'
     c.   *Jean est parti pour la France (en avion).*
            Jean leave.PST for the France (by plane)
            'Jean left for France (by plane).'
     d.   *Jean est arrivé en France (en train).*
            Jean arrive.PST in France (by train)
            'Jean arrived in France (by train).'
     e.   *Jean a monté   les escaliers (en courant).*
            Jean ascend.PST the stairs   (run.GER)
            'Jean ascended the stairs (running).'
     f.   *Jean a descendu   les escaliers (en courant).*
            Jean descend.PST the stairs   (run.GER)
            'Jean descended the stairs (running).'
     g.   *Jean a traversé la   Manche   (à la nage).*
            Jean cross.PST the English Channel (swimming)
            'Jean crossed the English Channel (swimming).'

In French, motion with a path category involving an image schema of clear change of location such as 'into', 'out', 'to', 'away', 'up', and 'across' is described using a typical verb-framed construction as in (1). Co-events, the manners and means of transportation are expressed in adverbial elements in (1); manners (e.g. 'running') in a prepositional phrase or a gerundive verb, and means of transportation (e.g. 'by plane') in a prepositional phrase. A co-event is not always expressed, but since the object of the framing typology is a macro-event, in which a framing event with a path component and a co-event such as manner are integrated into a single clause, I use examples with an overt co-event for discussion.

     Sentences that deviate from the pattern in Figure 1 are also possible as in (2).

(2) a. *Jean a marché vers   la gare.*
        Jean walk.PST toward the station
        'Jean walked toward the station.'
    b. *Jean a couru jusqu'à la gare.*
        Jean run.PST up.to   the station
        'Jean ran up to the station.'

(3) *Jean a couru dans la   salle.*
     Jean run.PST in   the room
     'Jean ran in(to) the room.'

In the examples in (2a, b), the prepositions express path. When a motion is atelic, constructions such as *marcher vers* 'walk toward' in (2a) sound quite natural, as noted by Aske (1989) in Spanish. The preposition *jusqu'à* 'up to' can also be used for telic motion, resulting in a satellite-framed construction as in (2b) (cf. Beavers et al. 2010). Thus, the sentences in (2a) and (2b) are examples that deviate from the typical verb-framed construction in that the prepositions express path in the same way as in their English translations (i.e. satellite-framed).

   (3) is more subtle. Example (3) allows two types of interpretations: one is a translational motion equivalent to *run into* in English, motion from the outside to the inside of the room; and the other is a nontranslational motion wherein Jean ran around in the room or Jean ran on a treadmill located in the room.[1] When Example (3) is interpreted as translational, the path meaning (i.e. INTO) cannot be regarded as being expressed overtly, because the essential meaning of *dans* is not a path, but a location: the path meaning is not expressed explicitly anywhere in such a sentence because the preposition *dans* expresses a Region only (Zlatev 2007, Blomberg 2014) and the component of TO in such a sentence is only inferred from contexts.

   Thus in French, as for the expression of path, there is a constructional choice among three types: verb-framed, satellite-framed, and inferential (implicit).

   So far we have considered how manner and path are expressed. There is another concept that can appear either in the main verb or a prepositional phrase: deixis.

---

1.   The choice between the translational and nontranslational motion interpretations depends on the types of the motion ("ballistic motion" allows a dynamic interpretation of prepositions; cf. Slobin 2004) and on the size or form of ground objects (cf. Cummins 1996). The interpretation as a translational motion is more predominant with a smaller ground, as in *il a couru dans une flaque* 'he ran in(to) a puddle', than with a larger one, as in *il a couru dans la plage* 'he ran on the beach'. With a more moderate manner of motion, the translational motion interpretation is hardly possible, as in *il a marché dans une flaque* 'he walked in a puddle' (i.e., he walked within a puddle, staying inside of it).

(4) a.   *venir* ↔ *vers*   *moi*
          come   toward me
          'come ↔ toward me'
     b.   *aller* ↔ *de moi*
          go   of me
          'go   ↔ from me'

To express deixis, speakers have a choice between the deictic verbs and the corresponding prepositional phrases, as in (4). Such prepositional phrases are not inherently deictic, because *vers* 'toward' and *de* 'of, from' introduce only goal-oriented direction and source, respectively, with objects that happen to be the first-person pronoun. However, they can be used to describe the same direction of motion as the deictic verbs. In particular, because the venitive verb *venir* always expresses the direction toward the speaker, the paraphrase illustrated in (5) is possible for describing the same situation.[2]

(5) a.   *Il vient en courant.*
          'He comes, running.'
     b.   *Il court vers moi.*
          'He runs toward me.'

   Hence, the three components of motion concepts, path, manner, and deixis, may compete for the main verb position in French, and the concept chosen to appear there then determines the constructional type, i.e. whether a verb-framed or other patterns are used.[3] According to Talmy's classification, on theoretical grounds, French is expected to predominantly use the construction pattern exemplified in the examples in (1) and with the schema in Figure 1. However, the constructions in (2) and (5b) are also options for describing motion events in French. In order to understand what determines the constructional choice, it is necessary to determine

---

2.   By contrast, *aller* expresses not only the direction whose source corresponds to the speaker (i.e. away from the speaker), but also directions neutral in relation to the location of the speaker. Moreover, since *aller* always requires a goal phrase (**Il va.* 'He goes.' cf. *Il vient.* 'He comes.'), a simple conversion such as in (5) is not possible for *aller* and *de moi*. However, when the direction "away from the speaker" is in question, *il va vers la destination en courant* 'he goes toward the destination, running' can be paraphrased as *il court vers la destination en s'éloignant de moi* 'he runs toward the destination, moving away from me'.

3.   Though Talmy defined deixis as a component of path (Talmy 2000: 53), Matsumoto (2017) and Matsumoto et al. (2017) clearly distinguish deixis from other non-deictic paths and recognize its independent semantic and distributional status, because in many languages deixis is expressed in a dedicated syntactic slot or in a syntactic position distinguished from other positions for non-deictic paths. This chapter, following Matsumoto and Matsumoto et al., treats deixis as an independent conceptual component of motion events that may attract the speakers' attention.

which concept is expressed in the main verb, among the three components of motion concepts: path, manner, and deixis. As is presented in Section 3.1, a speech production experiment with video stimuli allows us to identify the predominant constructions used for describing perceived motion events in French.

2.2 Talmy's principles and the different frequencies of optional syntactic elements

The determination of the construction type leads to the second question addressed in this chapter: the different frequencies of the concepts expressed in optional syntactic elements. Among path, manner, and deixis, only one concept wins out in the competition for the main verb slot in French, and the next question is how frequently the concepts defeated in this competition are expressed versus omitted. In this regard, Talmy (2000) proposes four principles pertaining to the correlation between the fore- and backgroundedness of each semantic component and the cognitive cost of expressing it. The cognitive cost cannot be directly measured, but can be roughly estimated through the frequency of certain syntactic constituents. In this chapter, I assume that the use of a frequent expression requires a low cognitive cost, while the use of an infrequent expression requires a higher cognitive cost.

Talmy (2000: 128–129) analyzes the differences between the following examples that convey the same information.

(6)   a.   I went by plane to Hawaii last month.
      b.   I flew to Hawaii last month.   (Talmy 2000: 128)

Talmy argues that (6a) and (6b) are equivalent in terms of the amount of information they express. He notes that (6b) is more economical for expressing the means of transportation, because the verb *fly* conveys this information "for free," i.e. without adding any optional syntactic elements to the sentence. When the main verb does not contain such information about the means of motion as in (6a), another syntactic constituent *by plane* is required to express the same information.

This analysis leads Talmy to propose four related principles concerning: (1) the fore- and backgrounding of semantic components of motion in a sentence, (2) the frequency of expression of a given concept, (3) its cognitive cost of expression, and (4) the inclusion of extra information in a given sentence. The first principle is called "backgrounding according to constituent type". A semantic component is backgrounded when it is expressed in the main verb root, or in any closed class element in a verb complex, including a satellite. Elsewhere, it is foregrounded. In the basic French motion expression illustrated in (1), path is expressed in the backgrounded constituent (i.e. the main verb), and manner in a foregrounded constituent, because

gerundive verbs and prepositional phrases are constituents external to the main verb complex.

The second principle relates to frequency: the "ready expression under backgrounding". Talmy argues that a concept or a category of concepts tends to be expressed more readily where it is backgrounded than where it is foregrounded. For example, a specific concept such as the aeronautic means of motion in (6) is expressed more frequently and colloquially when represented in a backgrounded constituent, i.e., the main verb, than when represented in a foregrounded constituent, i.e., the prepositional phrase. According to the typical French pattern, as seen in the examples in (1), a concept of manner is typically expressed in a foregrounded element, and it is therefore expected to be less frequent.

Talmy's third principle defines the relation between fore- and backgrounding and cognitive cost: the "low cognitive cost of extra information under backgrounding". Extra information readily expressed in a backgrounded constituent can be included in a sentence at a low cognitive cost. In Talmy's definition, cognitive cost means additional speaker effort or hearer attention. If this principle is true, then, for example, a greater cognitive cost would typically be required to express manner in a foregrounded constituent in French than in a backgrounded constituent. According to the typical realization of path in the main verb, as in (1), manner is expressed in a costly position and its expression is expected to be restricted because of this high cognitive cost.

Talmy's fourth principle is a consequence of the preceding ones: the "ready inclusion of extra information under backgrounding". When a concept is expressed in a backgrounded element, it can be included in a clause with less cognitive cost, and therefore, extra information can be more readily included. Talmy presents the following contrast between backgrounded English manner verbs with multiple path satellites and their Spanish counterparts.

(7) a. *The man ran back down into the cellar.*
     b. *El   hombre corrió   al   sótano.*
         the man   run.PST to.the cellar
         'The man ran to the cellar.'
     c. *El   hombre volvió   al   sótano corriendo.*
         the man   return.PST to.the cellar run.GER
         'The man returned to the cellar, running.'
     d. *El   hombre bajó   al   sótano corriendo.*
         the man   descend.PST to.the cellar run.GER
         'The man descended to the cellar, running.'
     e. *El   hombre entró   al   sótano corriendo.*
         the man   enter.PST to.the cellar run.GER
         'The man entered the cellar, running.'   (Talmy 2000: 130)

As illustrated by (7a), the sequence *run back down into* is allowed in English, with multiple path information readily included in a backgrounded way in path satellites. In Spanish, wherein path is expressed typically in the main verb, that is, without any productive path satellites, speakers can background only one of the four conceptual components (manner or one of the three path components included in (7a)) in the main verb as shown in (7b)–(7e).

One could intuitively agree with these principles as far as manner expression in French is concerned: it is rare to encounter French expressions with a gerundive or prepositional phrase expressing manner information, such as *je vais aller à la gare en marchant demain matin* 'I will go to the station walking tomorrow morning' or *on traverse la rue à pas pressé* 'we cross the street in a hurry' (see also Slobin 2000). These sentences are grammatical and follow the typical construction in (1), but they do not sound colloquial. This fact provides additional support for Talmy's principles; manner information that is expressed in foregrounded constituents is not expressed frequently because of a high cognitive cost.

There are two issues in Talmy's principles, however. First, it is based primarily on the expressions of manner or means of transportation. It would be interesting to see if the expressions of some other concepts, such as path or deixis, work in the same way. Second, these principles are based primarily on English. In the case of English, the main verb position is available primarily to manner or means, and so it is easy to see that manner is expressed "for free" in this position. However, in some languages the main verb position can be filled by more than one category of verbs (e.g., path or deictic verbs), and in such circumstances, the issue of cost and frequency may not be as simple as in English. In fact, English has Latinate path verbs such as *enter* (French *entrer*) or *descend* (French *descendre*), and deictic verbs *come* and *go* that can fill the main verb slot, which can presumably compete with manner verbs. However, such possibilities have not been sufficiently discussed in the literature.

As for French, two questions arise here: whether or not French is really biased in terms of the path concept appearing in the main verb, as Talmy claims in his typology, and to what extent the principles, proposed for the asymmetry between the main verb and optional syntactic constituents, correctly predict the frequencies of the other concepts appearing (versus being omitted) in the foregrounded prepositional phrases or adverbial constituents. When a concept is adopted for the backgrounded main verb slot (and this concept is typically path in French, according to the typology), other concepts that are to be pushed away into the foregrounded constituents are less likely to be expressed. This is because the principles predict that concepts expressed in optional syntactic elements rather than in the main verb require a greater cognitive cost.

As is pointed out in Section 2.1, the three concepts, path, manner, and deixis, can appear either in the main verb position or in optional syntactic elements such as a gerundive verb or a prepositional phrase. Thus, the choice of concepts for the main verb slot yields another choice: that of whether to use optional syntactic elements to express the concepts unexpressed in the main verb slot or not. If there are concepts that are more likely to appear in foregrounded optional syntactic elements than in the backgrounded main verb within a language, going against Talmy's principles, it is necessary to account for this distribution.

3. Experiment and analyses

A production experiment was conducted in order to verify what determines the constructional choice, and whether the use of syntactically asymmetric constituents (main verb vs. optional elements) correlates with their frequency.

3.1 Method

The experiment was a part of the NINJAL-Kobe Project on Motion Event Descriptions, led by Yo Matsumoto, using video clips prepared in the project. The experiment contained a core set of 27 video clips, each depicting motion events that differ in the following three respects: Manner, Path, and Deixis. Each of these has three types: (1) manner (walking, running, skipping); (2) path (horizontal motion on a road to a certain location in a park [TO], inward motion into a pavilion in a park [INTO], and upward motion on a flight of stone steps [UP]); and (3) different deictic angles, according to the deictic relation between the camera position (= speaker's position) and the moving figure (toward speaker, away from speaker, and neutral). These are summarized in Table 1.

Table 1. Path, Manner, and Deixis used in video clips

Path	Manner	Deixis
TO	WALKING	TOWARD S
INTO	RUNNING	AWAY FROM S
UP	SKIPPING	NEUTRAL

Participants in the experiment were requested to watch the video clips one by one and to describe what they had seen after each clip was presented. In this way, linguistic descriptions were produced based on the memory of the participants, and they were recorded and transcribed.

There were 26 participants, ranging in age from 18 to 35: 4 men and 22 women. Their native language was French, and the experiment was conducted in a laboratory of Université Paris III.

Various verbs and prepositional phrases were used to describe the same situation. For example, French does not have any verb corresponding to *skip* in English, and the participants used various verbs such as *sautiller* 'hop', *sauter* 'jump', *trottiner* 'trot', and *gambader* 'gambol', which are all categorized as manner expressions used for describing the manner of skipping. The analysis is focused on the frequency of concepts described in the main verb and optional elements, as discussed in Section 2. Verbs and prepositions used are mentioned outside of the tables without the frequency of each item when a list is needed.

3.2   Results

3.2.1   *Expressions of path*

First, I examined the types of syntactic constituents used in the description of path. Table 2 shows the percentages of the responses in which speakers used each constituent to represent a path depicted in TO, INTO, and UP clips. These are results from clips depicting each of these paths, regardless of their manner and deixis specifications. The percentages were calculated out of a total of 234 possible instances, i.e. the product of the number of clips (9 clips for each path) and the number of participants (26) yielded a denominator of 234. The major constituent types used were the main verb and the preposition. The use of prepositions coding a Region only is separately counted. There were no instances of adverbs used to represent the paths in question. Note that there were cases where a speaker used more than one constituent to express a path.

"Main verb" in Table 2 include: for the TO clips, *arriver* 'arrive', *s'approcher* 'approach', and *rejoindre* 'join'; for the INTO clips, *entrer* 'enter'; for the UP clips, *monter* 'ascend'. "Prepositions" for the TO clips include *à* 'to', *jusqu'à* 'up to', and *vers* 'toward'. "Preposition (Region only)" for the INTO clips accounts for the use of *dans* 'in'.[4] Complex expressions such as *à/vers l'intérieur de* 'to/toward the inside of' are counted as "Others" in Table 2. French has no preposition for UP. Responses

---

4.   Note that the preposition *vers* contains a directionality, while *dans* inherently expresses a location. That is the reason why *vers* is counted as a preposition indicating path for TO clips, while *dans* is categorized as a Region-only preposition (no path explicitly indicated). In the descriptions of TO clips, the distinction between the directionality and the arrival is sometimes vague because our data contain such examples as *il arrive vers moi* '(lit.) he arrives toward me', in which *arriver* certainly contains an arrival meaning, which is followed by a directional *vers*, not by *à*. See also Example (11).

with the path verb in a subordinate clause (e.g. *Il court pour entrer dans un lieu de détente* 'He runs in order to enter a rest house') or a gerund (e.g. *Il me rejoint en montant les escaliers* 'He joins me, ascending the stairs') are included in the "Others" column of Table 2.

Note that those path expressions do not necessarily describe the path in each video clip accurately. The use of *s'approcher* 'approach' or *vers* 'toward', for example, does not entail the arrival at the goal. However, these items do indicate path. Since we are interested in knowing where in a sentence speakers describe path, we counted those items in considering the path expressions for scenes in each video clip below.

Table 2. Syntactic constituents used in the description of paths in video clips

	Main verb	Preposition	Preposition (Region only)	Others	Not specified
TO	22.6%	75.6%	0%	9.0%	8.6%
	($N = 53$)	($N = 177$)	($N = 0$)	($N = 21$)	($N = 20$)
INTO	24.8%	0%	35.0%	22.2%	24.8%
	($N = 58$)	($N = 0$)	($N = 82$)	($N = 52$)	($N = 58$)
UP	76.1%	0%	0%	11.1%	10.7%
	($N = 178$)	($N = 0$)	($N = 0$)	($N = 26$)	($N = 25$)

Table 2 suggests that French does not always behave as a verb-framed language, because the path information is not always expressed in the main verb. In particular, when prepositions are available, as in the TO clips, path is expressed in a preposition radically more frequently than in the main verb. Examples are given in (8). The path in the INTO scene is often unexpressed (see the rate of "Not specified" in Table 2); the verb *entrer* is not so frequently used for describing these clips. Sentences in (9) exemplify the cases in which the concept TO in the INTO scene is inferentially indicated when a manner verb is used in the main verb. In contrast, the UP clips are almost always described by a path verb in the main verb position, as in (10), because French has no preposition for UP.

(8) a. *Mon ami   a couru vers   le   vélo.*
       my   friend run.PST toward the bike
       'My friend ran toward the bike.'

   b. *Il sautille   le long du   chemin, jusqu'au   vélo.*
       he hop.PRES along of.the road   up.to=at.the bike
       'He hops along the road up to the bike.'

(9) a. *Il court   vers   l'intérieur du   petit préau.*
       he run.PRES toward the=inside of.the small courtyard
       'He runs toward the inside of the small courtyard.'

b. *Il   court   dans le   kiosque.*
he run.PRES in   the kiosk
'He runs into the kiosk.'

(10) a. *Elle monte   les escaliers tranquillement en marchant.*
she ascend.PRES the stairs   quietly   walk.GER
'She quietly ascends the stairs, walking.'

b. *Il   monte   l'escalier, devant   moi, en courant.*
He ascend.PRES the=stairs in.front.of me   run.GER
'He ascends the stairs right in front of my face, running.'

In the descriptions of the TO clips, the main verb frequently expresses a manner, and the path is expressed by prepositions, as in (8). In (8a), the preposition *vers* 'toward' is used even for a clip in which the moving person actually reaches the goal. Because manner verbs cannot co-occur with the goal preposition *à* 'to' except when *à* is paired with a source preposition *de* 'from' (not attested in the data), *vers* seems to convey practically the equivalent meaning. The arrival at the goal is implicitly understood in such cases. It is also possible to express the arrival meaning explicitly with *jusqu'à* 'up to', as in (8b).

In the descriptions of the INTO clips, path is often not fully specified. In (9a), only the meaning of direction (not arrival at the goal) is explicitly expressed by *vers* and the interiority expressed by the location noun *intérieur*, and this combination enables us to infer the meaning of INTO (see also Example (13b) in Section 3.2.2). The example in (9b) has the same pattern as (3) and the preposition *dans* indicates a Region only, and the element TO in INTO is inferred from the whole sentence and extralinguistic context. Because the number of the uses of *dans* in Table 2 includes the cases this preposition follows the verb *(r)entrer,* which account for 54 out of 82 instances, the construction type exemplified in (9b) is not so frequent in the data.

A clear difference of frequency between the main verb and prepositions is in the descriptions of the UP clips. As already pointed out, the concept of UP cannot be indicated with a preposition, but must be described in the verb.[5] Note that, given the high frequency of the use of the verb-framed construction for describing UP, it is not just boundary-crossing events that lead to the use of verb-framed patterns (cf. Aske 1989; Slobin 1996). In fact, our data suggest that vertical path elicits more verb-framed pattern than boundary crossing case of INTO.

---

5.   It is not impossible for UP to be expressed in a gerundive verb, e.g. *il vient vers moi en montant les escaliers en courant* 'He comes toward me, ascending the stairs, running.' However, such an example was not attested. For the UP clips, the concept of UP was almost always chosen as backgrounded information, expressed in the main verb.

What is especially important for this study is the predominant expression of path using the prepositions *vers* and *jusqu'à* in the descriptions of the TO clips. This is quite remarkable, because if French is purely a verb-framed language, the expression of path in the main verb should be preferred in all cases. However, contrary to this expectation, a construction pattern wherein path is expressed using a preposition is predominant in the case of TO clips.

It is not impossible, following Talmy's typology, to use the verb-framed construction to describe motion that could be translated as containing the concept of TO in the verb, and such sentences were also attested as in (11).

(11) *Mon amie arrive   vers   moi en sautilant*
      my   friend arrive.PRES toward me   hop.GER
      (Lit.) 'My friend arrives toward me, hopping.'

Though the amount of information expressed by the sentences in (8a) and (11) is more or less equal – one path concept and one manner concept – the results in Table 2 reveal that the expression pattern in (11) is clearly less frequent than that of (8), which is not consistent with the expectations based on Talmy's typological characterization of French.

The findings of this section suggest that contrary to what is expected of French as a verb-framed language, path is not the only concept expressed in the main verb position in French. This has an impact on where other concepts are expressed, and how frequently they are expressed, as will be seen below.

3.2.2   *Expressions of deixis*

A striking difference of frequency in expressing deixis is found between the use of the main verb versus prepositional phrases. Deixis is a component of the path concept according to Talmy, and it is thus expected to appear in the main verb in French, following his typological characterization of French; however, this is not actually the case.

French has two deictic verbs, *aller* 'go' and *venir* 'come', but the use of these verbs is not frequent in the result of the present experiment.[6] Instead, prepositional phrases are the dominant means of indicating deixis. Table 3 shows the percentages of responses in which speakers indicated deixis using different syntactic constituents to describe the deictic directions of TOWARD S, AWAY FROM S, and NEUTRAL (where "S" is the speaker) in the video clips. The "Prepositional phrase"

---

6.   *Aller* and *venir* are frequent verbs in quotidian speech and were frequently elicited in Blomberg (2014), but they were not frequent in the present speech production experiment. There may be some semantic or pragmatic conditions for using them, but this issue is outside the scope of the present analysis.

column in Table 3 includes prepositional phrases containing the first-person pronoun in its tonic form *moi*, the "Pronoun" column includes uses of the first-person pronoun *me* as the object of a path verb (e.g. *rejoindre* 'join', *laisser* 'leave', etc.), and the "Contextual" column includes expressions in which deixis is implied by some phrases describing the setting of the depicted situation.[7] Note that there were cases where an individual speaker used more than one constituent to express deixis.

Table 3. Syntactic constituents expressing deixis

	Main verb	Prepositional phrase	Pronoun	Contextual	Not specified
TOWARD S	19.7%	62.4%	27.4%	30.5%	0%
	(N = 46)	(N = 146)	(N = 64)	(N = 69)	(N = 0)
AWAY FROM S	8.5%	9.8%	6.0%	35.9%	48.3%
	(N = 20)	(N = 23)	(N = 14)	(N = 84)	(N = 113)
NEUTRAL	9.4%	0.9%	15.0%	30.8%	44.0%
	(N = 22)	(N = 2)	(N = 35)	(N = 72)	(N = 103)

The examples in (12) are descriptions of motion events with the three deictic directions: (12a) and (12b) express TOWARD S and AWAY FROM S with the prepositional phrases *vers moi* 'toward me' and, *de moi* 'of me', respectively, and (12c) expresses NEUTRAL direction.

(12) a. *Mon ami   vient   vers   moi en sautillant.*
          my   friend come.PRES toward me   hop.GER
          'My friend comes toward me, hopping.'

      b. *Mon ami   s'éloigne   de moi en courant.*
          my   friend REFL=go.away.PRES of me   run.GER
          'My friend goes away from me, running.'

      c. *Un ami   passe   devant   moi en sautillant.*
          a   friend pass.PRES in.front.of me hop.GER
          'A friend passes in front of me, hopping.'

Deictic expressions are frequently used for the TOWARD S clips, but not for the other clips, as shown in Table 3. Most often the other two directions are only implied by some phrases describing the setting (see footnote 7 for an example).

---

7. The responses of the participants are not limited to a single clause, and some participants used an introductory clause describing the setting in order to explain a deictic relation. For example, *je suis avec un ami sur un chemin dans un parc, il se dirige en courant vers un vélo qui se trouve en face de nous* 'I am with a friend on a road in a park, he heads for a bike that is parked in front of us, running'. In this example, AWAY FROM S is not lexically expressed but is understandable from the description of the situation. See also Example (16a).

Table 3 shows that deixis is more frequently expressed outside the main verb than in the main verb. This is especially clear in the case of TOWARD S, which is much more frequently expressed using the prepositional phrase (i.e. *vers moi*) than the deictic verb (i.e. *venir*). This prepositional phrase sometimes occurs with a deictic verb, as in (12a); when the deictic verb *venir* is used, it is quite frequently followed by the prepositional phrase *vers moi*. The number of responses with such double specification is 44 (out of 46 occurrences of *venir*).

The prepositional phrase *vers moi* more frequently follows other types of verbs rather than deictic ones, as in (13).

(13)   a.   *Un ami   court   dans les escaliers vers   moi.*
             a   friend run.PRES in   the stairs   toward me
             'A friend runs on the stairs toward me.'

       b.   *Mon ami   gambade   vers moi,   vers   l'intérieur du   lieu*
             my   friend gambol.PRES toward me toward the=inside of.the place
             de détente.
             of relaxation
             'My friend gambols toward me, toward the inside of the rest place.'

The principal means for describing this deictic direction is thus the use of the prepositional phrase. If deixis is a component of the path concept and if French always behaves as a verb-framed language, deixis should be expressed in the main verb. However, the results show that this is not the case.[8]

With regard to Talmy's principles on the correlation between the fore- and backgrounding of semantic components and the different cognitive costs of expressing them, a given concept is more frequently expressed when represented in the backgrounded position (i.e. the main verb) than in foregrounded constituents (i.e. optional syntactic elements). This is the case for his analysis of the means of transportation in English in (6); the aeronautical means seems to appear "for free" in the verb *fly*, while the prepositional phrase *by plane* requires a greater cognitive cost, which leads to its low frequency. The distribution of the concept of deixis in French, however, goes against those principles (see Section 4.2 for further discussion) in that deixis is more often expressed in the prepositional phrase, with the main verb position occupied by manner or path.

---

8.   There are other studies suggesting that deixis tends to be coded differently from (non-deictic) paths. See also Matsuse (this volume), Eguchi (this volume), Matsumoto (2017), and Matsumoto et al. (2017).

3.2.3   *Expressions of manner*

Finally, I examined the frequencies of expressions of manner in different types of constituents. As with Tables 2 and 3, each row of Table 4 indicates the percentages of responses in which the manner expressions in question were used in the subjects' descriptions of the video clips depicting walking, running, and skipping, respectively.

Table 4. Syntactic constituents expressing manner

	Main V	Gerundive	PP	Adverb	Not specified
WALK	17.9%	12.8.%	1.3%	13.2%	62.0%
	(N = 42)	(N = 30)	(N = 3)	(N = 31)	(N = 145)
RUN	41.9%	47.9%	1.3%	9.4%	3.0%
	(N = 98)	(N = 112)	(N = 3)	(N = 22)	(N = 7)
SKIP	29.9%	54.7%	4.7%	5.6%	11.1%
	(N = 70)	(N = 128)	(N = 11)	(N = 13)	(N = 26)

First, Table 4 shows that the manner of walking is not described by many speakers. As mentioned in Section 2.2, *en marchant* 'walking' does not seem to be a frequent expression in colloquial speech as confirmed by the results in Table 4. The use of *marcher* 'walk' in the main verb position is primarily limited to the TO clips (36 out of 42 occurrences), wherein the path meaning is frequently expressed by prepositions, as in (14a), while the frequency of the use of the gerundive form in (14b) is quite low compared with the other types of manner expressions.

(14) a. *Elle marche   {jusqu'au   vélo /   le long du   chemin/ vers   le*
          she walk.PRES up.to=at.the bike   along of.the road   toward the
          vélo / en direction du   vélo.}
          bike   in direction of.the bike
          'She walks {up to the bike/along the road/toward the bike/in the direction of the bike}.'

   b. *Mon amie   s'éloigne   de moi en marchant.*
       my   friend REFL=go.away.PRES of me walk.GER
       'My friend walks away from me.'

The use of the gerundive form *en marchant* seems to have been facilitated to a certain extent in the present experiment, because each manner is contrasted with the other manner types. The use of *en marchant* is probably less frequent in actual colloquial speech.

The other two types of manners exhibit different results. They are rarely ignored (see the very low frequencies of "not specified" in Table 4). They are expressed either

in the main verb or in the gerundive form, and in the case of the SKIP clips, the use of gerundive form is clearly more frequent than that of the main verb.

Whether manner is expressed in the main verb or in the gerundive depends much on the types of path involved. When the path is horizontal and does not contain any boundary, that is, for the TO clips, the specification of manner frequently appears in the main verb positions as in (14a) and (15) (out of 234 possible responses for the TO clips, manner verbs were used in the main verb position 103 times, compared with path verbs, which occurred in the main verb position 53 times).

(15)   a.   *Mon ami   court   jusqu'au   vélo.*
             my   friend run.PRES up.to=at.the bike
             'My friend runs to the bike.'
       b.   *Il   trottine   vers   le   vélo.*
             he trot.PRES toward the bike
             'He trots toward the bike.'

When the path is INTO or UP, manner verbs are more likely to be used as a gerundive verb, as in (16), while the main verb slot tends to be filled by a path verb such as *entrer* 'enter' or *monter* 'ascend' (a path verb occurred in the main verb position 58 times for the INTO clips (24.8%) and 178 times for the UP clips (76.1%) out of 234 responses each).

(16)   a.   *Mon ami   qui était   avec moi, entre   en courant dans le*
             my   friend REL be.PST with me enter.PRES run.GER in   the
             lieu   de détente.
             place of relaxation
             'My friend, who was with me, enters the rest place, running.'
       b.   *Mon ami   monte   en sautillant l'escalier jusqu'en haut.*
             my   friend ascend.PRES hop.GER   the=stair up.to=at top
             'My friend ascends the stairs to the top, hopping.'

In (16), path is expressed in the main verb and manner in a gerundive verb, which is consistent with Talmy's typological characterization of French.

What is important regarding the realization of concepts that are not expressed in the main verb slot is the fact that the three manner types do not behave in the same way; this seems problematic with Talmy's typology and does not align with his principles on the correlation between the fore- and backgrounding of each semantic component and the cognitive cost of its expression. As is shown in Table 4, all types of manners can appear either in the main verb or in a gerundive verb. The expression of the manner of walking is consistent with Talmy's principles on the one hand because it is frequently expressed in the main verb for the TO clips

and is used less frequently in the foregrounded gerundive form for all path types; in other words, the manner of walking is expressed primarily in a backgrounded way. On the other hand, this distribution is inconsistent with expectations based on Talmy's typology because the manner of walking is expressed in the main verb and the notion of path in a preposition. The other manner types (i.e. running and skipping) are frequently described by the foregrounded gerundive form, which violates Talmy's principles but is consistent with his typology because path is expressed in the main verb and manner in the gerundive. Factors that are weighed against his typology and principles should be sought.

4.   Discussion

4.1   Constructional variation

The results in Section 3.2 show that French has expression patterns consistent with Talmy's typology as well as those that are not. This section argues that there are two reasons for the constructional choice.

One factor accounting for the difference among the three types of paths is lexical availability (see Beavers et al. 2010). French does not have a preposition that can be used to express UP, so the main verb is always used for this path, almost exclusively creating a verb-framed construction. However, the lexical availability of prepositions alone cannot account for why TO is more often represented by prepositions rather than verbs. Path verbs do exist for TO as well as for INTO and UP. Another factor should be sought.

The other factor is the attraction of attention to path in perceived motion events. For example, when a motion event contains specific path features such as verticality, the path draws speakers' attention in a more significant way than would an ordinary path that does not contain such features. In fact, in describing the TO video clips, manner verbs are used as the main verb much more frequently. Together with the lexical availability condition, the attraction of attention functions as a factor that affects the constructional choice.

Though deixis is defined as a component of path according to Talmy, it is rarely expressed in the main verb in French despite what might be predicted based on the typology. This suggests that deixis behaves independently, in a way that is not consistent with the typology (see also Matsumoto 2017 and Matsumoto et al. 2017). In addition, the deictic relation, especially TOWARD S (where "S" is the speaker), is also a characteristic that attracts speakers' attention in that the moving figure comes to have a relation with the speaker, but the expression of this deictic relation in the main verb is not as frequent as might be expected. As for the competition for the

main verb slot, the deictic verb does not attract speakers' attention strongly enough to predominantly appear in the main verb.[9]

4.2 Different frequencies of the main verb and optional syntactic elements

This section discusses the difference in frequency with which the concepts of path, manner, and deixis are expressed in the main verb versus in optional syntactic elements in light of Talmy's principles. In our data, some manner and deictic types are expressed outside the main verb markedly more often than in the main verb position. The question is: why this is the case. Of the three manner types, the manner of walking is rarely expressed in the gerundive verb, as is pointed out in Section 3.2.3, while the other two manner types, running and skipping, are very frequently expressed in the gerundive form, and in the case of skipping, markedly more often than in the main verb position. Of the three deictic directions, only TOWARD S is frequently indicated at all, and it is usually expressed in a prepositional phrase. This shows that the informational foregroundedness defined by the syntactic asymmetry between the main verb and optional elements alone does not necessarily determine how often a concept is expressed in a costly element. The high frequency of a concept expressed in an optional element must be accounted for by principles or factors other than Talmy's.

I would like to again propose the attraction of attention in a perceived motion as a solution to this question. Talmy's principles are valid to the extent that non-salient manners and unimportant deictic directions are hardly expressed in optional syntactic elements; the manner of walking is rarely expressed in the gerundive verb that is a foregrounded constituent; a banal manner is not worth mentioning in a foregrounded way, requiring high cognitive cost (see also Akita and Matsumoto, this volume), so this leads to its low frequency of expression. Unimportant directions are also treated in the same way; compared with TOWARD S, the other directions, AWAY FROM S and NEUTRAL, are directions in which the speaker does not come to have contact with the moving figure, and they were frequently ignored in the elicited data from the experiment.

The attraction of attention functions as a factor that motivates the expression of certain concepts in optional syntactic elements in spite of the high cognitive costs. While the manner of walking is the default type of human locomotion, the manners of running and skipping are not. They are manners of motion that occur for a specific reason, for example, moving to a place in a hurry, expressing joy in moving

---

9. For the difference related to *venir* and *vers moi* in terms of subjectivity or cultural differences, see Morita (submitted).

around as some children do, and so on. TOWARD S is a direction significant for the speaker in that the moving figure approaches and comes to have a relation with the speaker. This attraction of attention in perceived motion events explains why some concepts are frequently expressed in costly optional syntactic constituents.

In English, with some specific exceptions, manner or means of transportation can be expressed "for free" with a manner verb, and other concepts do not compete for the main verb slot. Manner in English therefore behaves consistently with Talmy's principles. By contrast, French, in which the three concepts, path, manner, and to some degree deixis, may compete for the main verb slot, does not always behave consistently with the principles. The attraction of attention first determines whether the perceived path is worth mentioning in the backgrounded main verb position in accordance with the commonly assumed typological characterization of French. If the perceived path is attractive enough to be described in the main verb, then, attention-attracting manners or deixis are expressed in optional syntactic elements in spite of their high cognitive cost.

The attraction of attention is not a principle that entirely contradicts Talmy's, but is a counter-cost factor that motivates the concepts that are not expressed in the main verb to be expressed frequently in optional syntactic elements. In other words, even though Talmy's principles are valid to some extent, as is true for the manner of walking in French, the desire to express characteristics to which the speaker's attention is attracted or important information for the speaker seems to overcome the speaker's tendency to avoid costly expressions.[10]

5.   Conclusion

In French descriptions of motion events, there is competition for the main verb slot that can be filled by path, manner, or deixis. The concept that wins out and appears in the main verb determines the construction type, or in Talmy's term, the framing type of motion expressions. When the path of a perceived motion event does not have salient characteristics, such as a boundary crossing or verticality, manner

---

10. In a motion event containing both a salient manner and important direction, for example, RUN and TOWARD S, the two concepts compete for the main verb, and French has two possibilities for describing this situation; *courir vers moi* 'run toward me' and *venir en courant* 'come running'. The experiment revealed that it is the former pattern that wins out in this competition. In fact, deixis is not expressed in the backgrounded way in French; rather, the prepositional phrase, a more foregrounded means, is preferred much more for expressions of deixis. Why RUN is given a priority over TOWARD S in French remains unaccounted for. See also the last paragraph of Section 4.1.

rather than path is frequently expressed in the main verb. Attracting the speakers' attention thus plays a role as a factor that determines the choice of a construction used to describe a perceived motion event. Although deixis has been considered to be a component of path, it did not frequently appear in the main verb in the data collected in the present experiment. Even though the direction TOWARD S is also an attractor of attention, the results showed that it does not successfully compete for the main verb. Deixis should therefore be distinguished from Talmy's other path components, as has also been proposed by previous studies.

The frequency with which certain concepts are expressed in optional syntactic elements is also determined by the attraction of attention. The concepts that are not expressed in the main verb can be omitted or expressed in optional elements, and Talmy's principles predict that these concepts are expected to be less frequently expressed in an optional element than in the main verb. The data showed, however, that expressions of manner and deixis in French do not follow his principles. The manners of skipping and running, compared with walking, and the direction TOWARD S, compared with the other directions, are very frequently described in gerundive verbs or prepositional phrases in spite of the assumed high cognitive costs for using these optional constituents. The attraction of attention is a counter-cost factor that motivates the expression of a concept even in a costly foregrounded constituent.

Attractors of the speaker's attention in motion events may vary according to contexts or extralinguistic circumstances, such as the aim of motion or even the clothing of a moving person. What do participants precisely perceive and how is their speech production affected by their perception of events? In future research, it would certainly be worthwhile to improve the experimental method in order to examine if there is any relation between the perception of events and the production of linguistic expressions.

Funding information

References

Aske, J. 1989. Path predicates in English and Spanish: A closer look. *Proceedings of the Fifteenth Annual Meeting of the Berkeley Linguistics Society*, 1–14.

Aurnague, M. 2008. Qu'est-ce qu'un verbe de déplacement? Critères spatiaux pour une classification des verbes de déplacement intransitifs du français. In J. Durand, B. Habert, & B. Lacks (Eds.), *Actes du Congrès mondial de linguistique française 08'* (1905–1917). Les Ulis: EDP Sciences.

Beavers, J., Levin, B., & Tham, S. W. 2010. The typology of motion expressions revisited. *Journal of Linguistics*, 46, 331–377. https://doi.org/10.1017/S0022226709990272

Blomberg, J. 2014. Motion in language and experience: Actual and non-actual motion in Swedish, French and Thai. Ph.D. dissertation, Lund University.

Cummins, S. 1996. Movement and direction in French and English. *Toronto Working Papers in Linguistics*, 15(1), 31–54.

Fong, V., & Poulin, C. 1998. Locating linguistic variation in semantic templates. In J-P. Koenig (Ed.), *Discourse and cognition* (29–39). Stanford: CSLI Publications.

Huang, S., & Tanangkingsing, M. 2005. Reference to motion events in six Western Austronesian languages: Towards a semantic typology. *Oceanic Linguistics* 44(2), 307–340. https://doi.org/10.1353/ol.2005.0035

Ibarretxe-Antuñano, I. 2004. Language typologies in our language use: The case of Basque motion events in adult oral narratives. *Cognitive Linguistics*, 15(3), 317–349. https://doi.org/10.1515/cogl.2004.012

Ibarretxe-Antuñano, I. 2009. Path salience in motion events. In J. Guo, E. Lieven, N. Budwig, S. Ervin-Tripp, K. Nakamura, & Ş. Özçalışkan (Eds.), *Crosslinguistic approaches to the psychology of language: Research in the tradition of Dan Isaac Slobin* (403–414). New York: Psychology Press.

Kopecka, A. 2004. *Étude typologique de l'expression de l'espace: Localisation et déplacement en français et en polonais*. Thèse de doctorat, Université Lumière Lyon 2, Lyon, France.

Kopecka, A. 2006. The semantic structure of motion verbs in French: Typological perspectives. In M. Hickmann & S. Robert (Eds.), *Space in languages: Linguistic systems and cognitive categories* (83–101). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/tsl.66.06kop

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In S. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A Festschrift for Masaru Kajita* (403–417). Tokyo: Kaitakusha.

Matsumoto, Y. 2017. Idoo hyoogen no ruikei ni kansuru kadai [Problems in the typology of motion expressions]. In Y. Matsumoto (Ed.), *Idoo hyoogen no ruikeiron* [The typology of motion expressions] (1–24). Tokyo: Kurosio.

Matsumoto, Y., Akita, K., & Takahashi, K. 2017. The functional nature of deictic verbs and the coding patterns of Deixis: An experimental study in English, Japanese, and Thai. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages and applications* (95–122). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/hcp.59.05mat

Morita, T. 2009. *La catégorisation des verbes de déplacement en japonais et en français*. Thèse de doctorat, École des Hautes Études en Sciences Sociales, Paris, France.

Morita, T. 2011. Intratypological variation in motion events in Japanese and French: Manner and deixis expressions as parameters for cross-linguistics comparison. *Cognitextes*, 6 [https://cognitextes.revues.org/498]. https://doi.org/10.4000/cognitextes.498

Morita, T. submitted. What does deixis tell us about motion typology? Linguistic or cultural variations of speaker's relations to perceived physical events.

Slobin, D. I. 1996. Two ways to travel: Verbs of motion in English and Spanish. In M. Shibatani & S. A. Thompson (Eds.), *Grammatical constructions: Their form and meaning* (195–233). Oxford: Oxford University Press.

Slobin, D. I. 2000. Verbalized events: A dynamic approach to linguistic relativity and determinism. In S. Niemeier, & R. Dirven (Eds.), *Evidence for linguistic relativity* (107–138). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cilt.198.10slo

Slobin, D. I. 2004. The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Mahwah, NJ: Lawrence Erlbaum Associates.

Slobin, D. I. 2006. What makes manner of motion salient?: Explorations in linguistic typology, discourse, and cognition. In M. Hickmann & S. Robert (Eds.), *Space in languages: Linguistic systems and cognitive categories* (59–81). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/tsl.66.05slo

Sugiyama, Y. 2005. Not all verb-framed languages are created equal: The case of Japanese. *Proceedings of the Thirty-First Annual Meeting of the Berkeley Linguistics Society*, 299–310.

Talmy, L. 1991. Path to realization: A typology of event conflation. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society*, 480–519. https://doi.org/10.3765/bls.v17i0.1620

Talmy, L. 2000. *Toward a cognitive semantics, Vol. 2: Typology and process in concept structuring.* Cambridge, MA: The MIT Press.

Zlatev, J. 2007. Spatial semantics. In H. Cuyckens & D. Geeraerts (Eds.), *The Oxford handbook of cognitive linguistics* (318–350). Oxford: Oxford University Press.

Should Talmy's motion typology be expanded to visual motion?

An investigation into expressions of motion, agentive motion, and visual motion in Sidaama (Sidamo)

Kazuhiro Kawachi

National Defense Academy of Japan

This chapter addresses the question of whether or not Talmy's (1985, 1991, 2000b) motion typology should be expanded to visual motion (Matsumoto 2001, 2017; Slobin 2009; Cifuentes-Férez 2014), by examining how Sidaama (Cushitic; Ethiopia) expresses (i) self-agentive/non-agentive motion, (ii) agentive motion, and (iii) fictive motion along a visual emanation path. It shows that although this language closely follows the verb-framed pattern in expressing (i) and (ii), it does not do so in expressing (iii), as in many other verb-framed languages. A possible reason for this is that (iii) is not conceptualized as a macro-event, whereas Talmy's typology is built on expression patterns of macro-events. This study also observes that there are other types of events to which Talmy's typology does not apply, presumably for the same reason: they are not really macro-events.

Keywords: fictive motion, macro-event, verb-framed language, visual emanation

1. Introduction

Matsumoto (2001, 2017) notes that the difference between verb-framed and satellite-framed languages (Talmy 1985, 1991, 2000b), in terms of their patterns of expressing self-agentive/non-agentive motion and agentive motion, is usually not also found in expressions of fictive motion along a visual emanation path (Talmy 1996, 2000a) (henceforth, "visual emanation") (e.g. *Chris looked into the hole*). Although verb-framed languages characteristically use a path-of-motion verb as the main verb when expressing self-agentive/non-agentive motion and agentive motion, even prototypical ones usually use a verb of looking as the main verb and employ a non-main-verb constituent such as an adpositional phrase or a case

marker for a path component of visual emanation, exhibiting a head-external coding pattern in Matsumoto's (2017) terms, that is, a pattern that is not verb-framed.

This chapter addresses the question of whether or not Talmy's (1985, 1991, 2000b) motion typology can be expanded to account for visual motion (Matsumoto 2001, 2017), by examining how Sidaama, a Highland-East Cushitic language of Ethiopia, expresses three types of motion: self-agentive/non-agentive motion, agentive motion, and visual emanation. It shows that although this language closely follows the verb-framed pattern in expressing self-agentive/non-agentive motion and agentive motion, it does not exhibit this pattern in expressing visual emanation – this is similar to many other verb-framed languages. The present chapter proposes that one reason for such a deviation may be that visual emanation is not conceptualized as a macro-event, whereas Talmy's typology applies to expression patterns of macro-events, and observes that there are also similar types of events for which his typology is irrelevant.

The present chapter is organized as follows. Section 2 reviews the literature. Section 3 presents data on motion expression patterns in Sidaama, and Section 4 analyzes the data. Section 5 discusses issues involving Talmy's typology and macro-events by examining cases where Sidaama does not follow a verb-framed pattern. Section 6 concludes the chapter.

2. Literature review

According to Talmy (2000b: 215–216), the cognitive process of event integration is the conceptual integration or conflation of an event as unitary that, more analytically, might be conceptualized as complex. This process emerges in language as the expression of an event in a single clause that, more analytically, could be expressed by means of a more complex syntactic structure. He argues that although languages can differ as to what can be conceptualized as a single event and what can be expressed in a single clause, there is a class of events that could be conceptualized as separate events, but tend to be recurrently conceptualized as unitary events and expressed in single clauses across languages. Talmy investigates patterns expressing a macro-event (e.g. a motion macro-event), consisting of a framing event (i.e. a main event; e.g. motion along a path) and a co-event (i.e. a subordinate event; e.g. manner of motion, means of causation). In his view, the framing event is made up of (i) the figure entity, (ii) an activating process (transition or fixity; the fact of (translational) motion in the case of a motion macro-event), (iii) an association function (the most schematic component of the framing event; the path of motion in the case of a motion macro-event), and (iv) the ground entity, the last two of which constitute the core schema.

Talmy classifies languages into two major types, verb-framed languages and satellite-framed languages (henceforth, "V-languages" and "S-languages", respectively), depending on how they express the association function and the co-event (for example, a manner of motion in the case of a motion event). V-languages and S-languages characteristically use different sets of grammatical categories, as shown in Table 1 (Kawachi 2016: 6).

Table 1. Rough synopsis of Talmy's (1985, 1991, 2000b) typology of event integration

Typological type	Event component	
	Association function (core-schematic component of framing event)	Co-event
Verb-framed languages	main verb root	adverbial, non-main verb
Satellite-framed languages	satellite	main verb root

Talmy claims that the two types of languages exhibit two different patterns of expressing the components of macro-events across the following five event domains: motion (specifically, translational motion), state change, realization, temporal contouring (aspect), and action correlating. The present study focuses on motion.

In Talmy's typology, which deals with complex events where the figure goes through a change with respect to the ground during a certain time period, motion is restricted to complex translational motion, where the figure entity changes its location relative to the ground entity across time with an accompaniment of a co-event, and does not include self-contained motion (e.g. rotation, oscillation, dilation) (Talmy 2000b: 26, 228–229), where the figure entity does not change its relative location in space "at a certain larger scope of granularity" (Talmy 2000b: 228). Thus, Talmy's typology is meant to apply to complex translational motion, i.e. to motion macro-events, whose framing event is the figure object's translational motion relative to the ground object as time progresses and whose most schematic component is the path of motion along which the figure object travels, but not to self-contained motion, which is not conceptualized as a macro-event consisting of a framing event and a co-event.

Talmy does not discuss whether or not fictive motion can be included in his typology. However, it is interesting to inquire whether or not it can be expanded to encompass fictive motion, especially those fictive motion events where a fictively moving entity is described as if it were performing translational motion.

There are two types of fictive motion involving vision for which languages often use verbs of looking (Talmy 1996, 2000a; Matsumoto 2001, 2017). One is the lateral motion of the line of sight, and the other is fictive motion along a visual emanation path. The lateral motion of the line of sight involves a change in the visual

fixation point or focal point or a change in the line of sight between the viewer's eyes and the visual fixation point (e.g. *Pat looked up from the book*). In this type of visual motion, as the direction of sight shifts, the viewer's eyeballs, head, or both actually move, though his/her physical location with respect to the visual fixation point remains constant, and this movement is reflected in the visual motion. Thus, despite the term "the lateral motion of the line of sight", the figure object may be the visual fixation point or the line of sight. In either case, the motion is constrained by the viewer's eyes, and could be regarded as involving (partial) rotation around the viewer's eyes, with the eyes being a fixed central ground object – rotation is a type of not translational motion but self-contained motion. On the other hand, in a visual emanation event, the figure entity (the viewer's visual probe or an unspecified or unspecifiable entity) fictively emanates from the eyes, and moves from the eyes as a source of motion (via a medium) to the visual target as a goal of motion (e.g. *Alex looked through the window into the room*). Hence, this type of motion could be regarded as a truly fictive type of translational motion. Therefore, because of the indeterminacy of the figure object in the lateral motion of the line of sight and a possible analysis of it as an instance of self-contained motion, the present study does not deal with this type of visual motion but focuses on visual emanation, and investigates whether Talmy's motion typology can apply to fictive motion along a visual emanation path.

Matsumoto (2001, 2017) compares expressions for the three types of motion, self-agentive/non-agentive motion, agentive motion, and visual emanation, across languages, and finds that while V-languages exhibit their characteristic pattern in expressing self-agentive/non-agentive motion the most frequently, and in expressing agentive motion the next most frequently, they usually deviate from their characteristic pattern in expressing visual emanation – for this type of motion, they normally use a verb of looking rather than a path-of-motion verb as a main verb, and express path with a constituent that is not a main verb, for example, an adposition.

On the other hand, based on data on expressions used for visual emanation events ("visual path expressions" in his term) in English, Russian, Spanish, and Turkish, Slobin (2009) claims that although languages differ in the complexity of visual paths that they express because of different "habits of thinking for speaking", they extend the typologically characteristic construction types that they use in the domain of motion to that of vision (also, Gruber 1967). Slobin (2009: 199) even states that "[t]he conceptual and linguistic equation of physical and visual paths seems to be universal". Cifuentes-Férez (2014) compares the constructions used to describe visual emanation events in an English novel and those in its Spanish translation, and finds a parallelism between their typological differences in the domain of motion and those in that of vision. However, it is not known how

genealogically different and geographically distant languages from these languages express visual emanation events or whether Slobin's and Cifuentes-Férez's findings can apply to them.

The present author (Kawachi 2012, 2018) found that Sidaama exhibits properties characteristic of V-languages in expressing motion events, but presented no data on its expressions on visual motion events. Thus, the present study examines whether such a prototypical V-language follows or deviates from the V-language pattern in expressing visual emanation, and it asks why any deviation might occur if it does; it also investigates why by looking at other cases where Sidaama does not display the V-language pattern.

3. Data

3.1 Profile of Sidaama and morphemes used for motion events

Sidaama belongs to the Highland-East branch of the Cushitic language family (Kawachi 2007, 2012, 2020, forthcoming). It is spoken in the Sidaama Zone, whose capital, Hawassa, is located 273 km south of Addis Ababa by road. According to the 2007 Ethiopian Census (*2007 Ethiopian census, first draft*, Ethiopian Central Statistical Agency), the 2005 population of the Sidaama people was 2,966,377.

The Sidaama case system is accusative. Its word order is predominantly SOV, and it uses suffixation, suprafixation, or both. The dative-locative case suffix marks the location of an object or an event (*-te* for Unmodified feminine nouns, *-ho* for Unmodified masculine nouns, and *-ra* for Modified nouns) (here, "Modified" means "modified by a noun modifier, accompanied by the possessive pronominal suffix, or both") (with locational nouns, the ablative-instrumental-locative-manner suffix *-nni* is used to express the location of an object or an event). For the goal of motion, the accusative-oblique case suprafix, which occurs as a high pitch on the final vowel segment of the stem, is used when the noun is a feminine noun or an Unmodified masculine noun, whereas the allative case suffix *-ra* is used when the noun is a Modified masculine or proper masculine noun or a locational noun. For the source of motion, the ablative-instrumental-locative-manner suffix *-nni* is used.[1]

---

1. Thus, *-nni* is the ablative or instrumental suffix when attached to a noun phrase, is the locative suffix when attached to a locational noun, and is the manner suffix in the integrated sub-construction of the temporal overlap construction in (5b) (or the suffix for 'while' in its non-integrated sub-construction), where it immediately follows a verb with the infinitive suffix. It also has several other functions.

When used as a main verb, the verb root must be accompanied either by the subject person-number(-gender) suffix (also, the gender suffix in the case of the first person) and one of the aspectual or mood suffixes to constitute a finite verb form in this language. Both the aspectual and mood suffixes have different forms depending on the person-number(-gender) of the subject. Non-finite verb forms carry the connective converb suffix -*e* or the infinitive suffix -*a* as well as the subject person-number(-gender) suffix.

Sidaama verbs that are used for components of motion events are listed in (1)–(3).[2] (1) lists path-of-motion verbs. Some of the agentive path-of-motion verbs in (1b) are derived from their self-agentive/non-agentive counterparts. (2) and (3) list verbs for manner of motion and means of causation (agentive cause), respectively.

(1)   Path-of-motion verbs
  a.   Self-agentive/non-agentive path-of-motion verbs
       dirr- 'descend', *ful-* 'exit; ascend', *goddid-* 'move up along a slope', *e'-* 'enter', *sa'-* 'pass (over, by, across)', *iill-* 'arrive', *tais-* 'cross', *hig-* 'return, turn, move via', *šikk'i y-* 'approach', *do-* 'move around (a relatively small circle)', *gangaab-* 'move around (a relatively large circle)', *ub-* 'fall', *da-* 'come', *haɗ-* 'leave and go', *mar-* 'go and arrive'
  b.   Agentive path-of-motion verbs
       ka-i-s- [rise-EP-CAUS-] 'move up, lift' (< *ka'-* 'rise, stand up'), *dirr-i-s-* [descend-EP-CAUS-] 'move down', *fu-šš-* [exit-CAUS-] 'take out' (< *ful-* 'exit'), *ee-ss-* [enter-EP-CAUS-] 'put in' (< *e'-* 'enter'), *sa-i-s-* [pass-EP-CAUS-] 'cause to pass' (< *sa'-* 'pass'), *iill-i-š-* [arrive-EP-CAUS-] 'cause to arrive', *tais-i-s-* [cross-EP-CAUS-] 'cause to cross', *do-i-s-* [move.around-EP-CAUS-] 'surround', *šikk'i ass-* 'cause to move a little', *k'ol-* 'cause to turn, direct, return, cause to move via', *šorr-* 'chase away', *wor-* 'put', *duk-* 'lift and load on someone's shoulder or head' (middle voice form: *duk-k'-* [lift.and.load-MID-] 'lift and load on one's own shoulder or head'), *baiɗ-* 'lift and load on one's own back', *aɗ-* 'get hold of (for oneself)', *haaɗ-* 'cause to move away from a place', *abb-* 'bring (to the deictic center)', *ma-ss-* [go.and.arrive-CAUS-] 'take (away from the deictic center to another location)', *ha'r-i-s-* [go.and.leave-CAUS-] 'cause to leave and go' (< *haɗ-* 'leave and go')

---

2.   Some of the forms in (1)–(3) are idiomatic verb complexes made up of *y-* 'say' or *ass-* 'do' and an element preceding one of these verbs, which is meaningless by itself. There are many pairs of such idiomatic expressions with *y-* 'say' and *ass-* 'do' that contrast in transitivity, for example, the intransitive verb complex *šikk'i y-* 'approach' and its transitive counterpart *šikk'i ass-* 'cause to move a little'.

(2)   Manner-of-motion verbs (self-agentive/non-agentive)
gongo'm- 'roll', *buub-* 'fly', *kubb-* 'jump', *dod-* 'run', *daak-* 'swim', *k'aaf-* 'walk, take steps, step over', *bod́d-* 'crawl', *sur-* 'creep', *širri y-* 'slide', *gušooš-am-* [pull-PASS-] 'walk slowly (purposefully or naturally)', *tirat-* 'walk slowly (because of a certain reason)', *buraak'-* 'run fast happily', *gaggab-* 'stagger', *din-* 'limp', *lečč'i (lečč'i) y-* 'walk tiredly', *rak-* 'hurry', *ariffat-* 'hurry', *jawaat-* 'hurry', *muddam-* 'hurry', *sasafam-* 'hurry (often, in doing an unexpected activity)', *winam-* 'hurry', *beellam-* 'hurry', *huunfam-* 'hurry'

(3)   Means-of-causation verbs (agentive cause verbs)
ol- 'throw (over a relatively long distance)', *tug-* 'throw (over a relatively short distance)', *gan-* 'hit, kick', *t'iib-* 'push', *gušooš-* 'pull', *hiikk'-* 'break (transitive)', *uffi ass-* 'blow (transitive)'

In addition to these, Sidaama also has manner+ path verbs: *gidd-* 'climb up', *luut'-* 'pass through a narrow space with difficulty'. For a manner of agentive motion, the causativized form of a manner verb is used (e.g. *gongo'm-i-s-* [roll-EP-CAUS-] 'cause to roll').

   Sidaama has locational nouns, given in (4), which are mainly used to specify path conformations.

(4)   Locational nouns
giddo 'inside', *gobba* 'outside', *aana/iima* 'top, aboveness', *ale* 'upperness', *woro* 'lowerness, belowness', *alba* 'beforeness, front', *bad́de* 'back', *duumba* 'behindness', *hoode* 'behindness (following the ground entity)', *gura* 'left', *k'iniite* 'right', *mereero* 'betweenness, middle, center', *mule* 'nearness', *hundaa* 'near-and-under-ness', *raga* 'vicinity, direction', *wido* 'direction, side, way-beyondness', *eella* 'bottom'

Most of these locational nouns are often followed by a non-finite form (a connective converb with -*e*, discussed in Section 3.2) of one of the verbs of turning (intransitive: *hig-*, transitive: *k'ol-*) (e.g. *alé-e hig-g-e* [upperness-LV turn-3SG.F-CNN], *alé-e k'ol-t-e* [upperness-LV cause.to.turn-3SG.F-CNN]). Their short forms look like adverbs with person-number(-gender) inflection (e.g. *aléeg-g-e* [turn.upward-3SG.F-CNN], *aléeg-i-s-s-e* [turn.upward-EP-CAUS-3SG.F-CNN]).

   Sidaama has a limited number of verbs of looking: *la'-* 'look, see', *daa'at-* 'look carefully (at something new/abnormal/unexpected/astonishing, etc.)', *geek'-* 'stare (often in anger)', *č'aakk'i y-* [(meaningless) say-] 'look back to glance'. The verb *la'-* is the basic verb of looking, and the other three are verbs for special ways of looking. (Examples for visual motion in the present chapter use only *la'-*, but the other three verbs could be used in any of them instead because they behave the same as *la'-* syntactically except that *č'aakk'i y-* cannot be used in the construction in (25) in the sense of visual perception.)

3.2   Multiple-verb constructions in Sidaama

Sidaama has two multi-verb constructions, the temporal sequence construction in (5a) and the temporal overlap construction in (5b), which can be used to describe motion macro-events.[3]

(5)   a.   Temporal sequence construction: V1-PERS/NUM(/GEND)-*e* V2 (finite)
      b.   Temporal overlap construction: V1-PERS/NUM(/GEND)-*a-nni* V2 (finite)

In either construction in (5), the converb or subordinate verb (henceforth "V1") and the main verb (V2 or later; henceforth "V2", because it is typically V2) must share the same subject, and V1 normally precedes V2.[4] V1 in each construction is non-finite in that it normally cannot be used as the only verb of a sentence. In the temporal sequence construction, V1 (a connective converb) is accompanied by the subject person-number(-gender) suffix and the connective converb suffix -*e*, as in (5a). In the temporal overlap construction, V1 is accompanied by the subject person-number(gender) suffix, the infinitive suffix -*a*, and the ablative-instrumental-locative-manner suffix -*nni*, as in (5b). (6) gives self-agentive motion examples.

(6)   *íse*   *tulló-te*   *aan-í-ra*
      3SG.F.NOM   mountain-GEN.F   top-GEN.M.MOD-ALL

(a)   *dod-d-e*
      run-3SG.F-CNN

(b)   *dod-d-á-nni*
      run-3SG.F-INF-AILM

ful-t-inó.
ascend-3SG.F-D.PRF.3

'She ran upward to the top of the mountain.'

---

3.   According to Haspelmath's (1995) criteria, V1 of neither construction is a good instance of a converb because it carries the subject person-number(-gender) suffix. Nevertheless, the present study treats V1s of both constructions as converbs, as is often done in the literature on other East Cushitic languages (e.g. Banti 2007).

4.   If V1 and V2 have different subject noun phrases, the constructions take the forms in (i), where =*nna* means 'and' or 'while'. In (i–a), the vowel of the connective converb suffix -*e* is lengthened. In these constructions, two (or more in the case of (i–a)) clauses are combined.

(i)   a.   Temporal sequence construction:
           V1-PERS/NUM(/GEND)-e-e=nna V2 (finite)
      b.   Temporal overlap construction:
           V1-PERS/NUM(/GEND)-a=nna V2 (finite)

In fact, these constructions each have sub-constructions. When used to describe motion events, as in (6), they are syntactically relatively integrated in that the two verbs form a superordinate verbal core. They each have less integrated sub-constructions, where two or more verbs are combined to constitute a clause.

The less integrated sub-construction of the temporal sequence construction is used to describe sequential actions, 'Event 1, and then Event 2', as in (7) and (8). In this case, a causal or enablement relationship is, though not entailed, often inferred between the actions. More than two verbs can be connected, as in (9), where the three actions occur sequentially: 'Event 1, Event 2, and then Event 3'.

(7) *íse*   *dag-g-i-te*   *ofoll-i-t-inó.*
    3SG.F.NOM come-3SG.F-EP-CNN sit-EP-3SG.F-D.PRF.3
    'She came, and sat down.'

(8) *íse*   *waalčó fan-t-e*   *e'-'-inó.*
    3SG.F.NOM door.AO open-3SG.F-CNN enter-3SG.F-D.PRF.3
    'She opened the door, and entered.'

(9) *íse*   *waalčó fan-t-e*   *e'-'-e*   *ofoll-i-t-inó.*
    3SG.F.NOM door.AO open-3SG.F-CNN enter-3SG.F-CNN sit-EP-3SG.F-D.PRF.3
    'She opened the door, entered, and sat down.'

The less integrated sub-construction of the temporal overlap construction is used to express an event complex where Event 1 has temporal duration and temporally overlaps with Event 2: 'While Event 1 is happening, Event 2 happens'. When Event 2 has no temporal duration, or has a shorter duration than Event 1, it is temporally included in Event 1, as in (10).

(10) *íse*   *sirb-i-t-á-nni*   *hant'iššid-d-inó.*
    3SG.F.NOM sing-EP-3SG.F-INF-AILM sneeze-3SG.F-D.PRF.3
    'While singing, she sneezed.'

When the temporal sequence and the temporal overlap constructions are used for motion macro-events, the two event components are expressed in an integrated way unlike when these constructions are used for separate events – the two event components are interpreted as occurring concurrently, and lasting for the same period of time. If a temporal adverbial is used in the more integrated temporal sequence sub-construction, as used for a motion macro-event (e.g. (6)), it must have scope over the two verbs (Bohnemeyer et al. 2007), unlike when the less integrated temporal sequence sub-construction is used for separate events (e.g. (7), (8)), in which case a different temporal adverbial could modify each of the two verbs. When the more integrated temporal overlap construction is used for a motion macro-event, the co-event expressed with a V1 does not occur for longer than the motion along

the path expressed with V2; rather, the two events occur concurrently with each other, unlike when the less integrated temporal overlap sub-construction is used for separate events (e.g. (10)), in which case the event expressed by V2 occurs during the period of time when the event expressed by V1 is happening.

3.3   Patterns of expressing self-agentive/non-agentive motion and agentive motion events in Sidaama

Motion events as macro-events whose co-event is a manner of motion (e.g. (6)) or a means of causation are usually expressed with the temporal sequence construction or the temporal overlap construction, where V1 expresses a manner of motion or a means of causation and V2 is a path-of-motion verb. Thus, both constructions follow the V-language pattern.

3.3.1   *Motion events with a manner of motion as a co-event*

Both multi-verb constructions can also be used for self-agentive/non-agentive motion events and agentive motion events whose co-event is a manner of motion, as in (6), (11), and (12). There is usually a subtle difference in meaning between the two constructions that can be used for the same motion event with a manner of motion as its co-event. According to my consultants, the temporal overlap construction (e.g. (6b), (11b), (12b)) emphasizes the continuation of the manner of motion more than the temporal sequence construction (e.g. (6a), (11a), (12a)).

(11)[5]   *kínč-u*   *balé-te*   *giddó-ra*
     rock-NOM.M   hole-GEN.F   inside-ALL

    (a)   *gongo'm-ø-e*
          roll-3SG.M-CNN

                        e'-ø-inó.
                        enter-3SG.M-D.PRF.3

    (b)   *gongo'm-ø-á-nni*
          roll-3SG.M-INF-AILM

    'The rock rolled into the hole (Lit. entered to the inside of the hole, rolling).'

---

5.   Strictly speaking, the literal meanings of (11a) and (11b) are different. The literal meaning of (11a) is 'The rock rolled and entered to the inside of the hole', whereas the literal meaning of (11b) is 'The rock entered to the inside of the hole (while/in the manner of) rolling'.

(12) *íse*   *kinčŏ*   *balé-te*   *giddó-ra*
      3SG.F.NOM   rock.AO   hole-GEN.F   inside-ALL

    (a)   *gongo'm-i-š-š-e*
            roll-EP-CAUS-3SG.F-CNN

    (b)   *gongo'm-i-š-š-á-nni*
            roll-EP-CAUS-3SG.F-INF-AILM

ee-ss-i-t-inó.
enter-CAUS-EP-3SG.F-D.PRF.3

'She rolled the rock into the hole (Lit. to the inside of the hole).'

The two multi-verb constructions in (6), (11), and (12) each exhibit the V-language pattern – the path is expressed in the main verb root (*ful-* 'ascend' in (6); *e'-* 'enter' in (11); *ee-ss-* [enter-CAUS-] 'cause to enter' in (12)), and is also expressed by the allative case suffix *-ra* on the locational noun (*aana* 'top' in (6); *giddo* 'inside' in (11) and (12)), which is modified by the goal noun phrase, while the co-event is expressed with a converb (*dod-d-e* in (6a); *dod-d-á-nni* in (6b); *gongo'm-ø-e* in (11a); *gongo'm-ø-a-nni* in (11b); *gongo'm-i-š-š-e* in (12a); *gongo'm-i-š-š-á-nni* in (12b)).

3.3.2 *Motion events with a means of causation as a co-event*

Motion events whose co-event is a means of causation (a cause of agentive motion) are agentive motion events by definition – they can be neither self-agentive nor non-agentive. The two multi-verb constructions can also be used for such events. The temporal sequence construction can be used for an event with a means of onset causation as its co-event, as in (13) and (14a). The temporal overlap construction can also be used for an event with a cause of extended causation (i.e. one that occurs continuously or repeatedly) as its co-event, as in (14b).

(13) *íse*   *kaasé* *balé-te*   *giddó-ra*   *ol-t-e*
      3SG.F.NOM ball.AO hole-GEN.F   inside-ALL   throw-3SG.F-CNN
      ee-ss-i-t-inó.
      enter-CAUS-EP-3SG.F-D.PRF.3
      'She threw the ball into the hole (Lit. to the inside of the hole, and caused it to enter).'

(14)   (a)   *gan-t-e*
                                                  hit-3SG.F-CNN
      íse   *kaasé*
      3SG.F.NOM   ball.AO   (b)   *gan-t-á-nni*
                                                  hit-3SG.F-INF-AILM

t'awó   *tais-i-s-s-inó.*
field.AO   cross-EP-CAUS-3SG.F-D.PRF.3
'She kicked the ball across the field (by kicking it (a) one time / (b) multiple times).'

(13) and (14) also display the V-language pattern – the path is expressed in the main verb root (*ee-ss-* [enter-CAUS-] 'cause to enter' in (13); *tais-i-s-* [cross-EP-CAUS-] 'cause to cross' in (14)) in addition to the case suffix on the noun in the goal phrase (the allative suffix *-ra*) and the locational noun (*giddo* 'inside' in (13)), while the co-event (a means of causation) is expressed with a converb (*ol-t-e* in (13); *gan-t-e* in (14a); *gan-t-á-nni* in (14b)).

Regardless of the type of co-event, when the vector is TO (e.g. (6), (11), (12), (13)), it is very common to use one of the connective converb forms of the intransitive verb of turning *hig-* (for self-agentive/non-agentive motion) or the transitive verb of turning *k'ol-* (for agentive motion) immediately after a goal noun phrase, so that three verbs then occur in a row in a single sentence. Importantly, even in such cases, the main verb is a path-of-motion verb.

3.4 Patterns of expressing visual emanation events in Sidaama

In expressing visual emanation, Sidaama usually uses a verb of looking as a main verb. Constructions used for visual emanation events involving the vector TO are first illustrated with examples from a video description experiment and from interview-based elicitations.[6] The most common pattern of expressing what seems to be visual emanation with the vector TO is one in which one of the verbs of turning (intransitive: *hig-*, transitive: *k'ol-*, usually with its object *illé* 'eye (AO)' optionally accompanied by the pronominal for the perceiver (e.g. *illé-se* [eye.AO-3SG.F.POSS])) is used in its connective converb form to express the lateral motion of the line of sight, while a verb of looking as the main verb must follow in order to express the fact of visual perception (in parallel with Talmy's term, "the fact of motion," as one of the motion event components; see Section 2). Generally, the intransitive verb of turning, *hig-*, is used when the perceiver directs their whole body in a particular direction, whereas the transitive verb of turning, *k'ol-*, is used when the perceiver

---

6. In the experiment, which was conducted as part of the NINJAL-Kobe project on motion event descriptions (PI: Yo Matsumoto), I had 14 native speakers of Sidaama describe three video clips (as part of a 51 video-clip experiment), where a woman looks into a house; the three video clips differ in terms of deixis: 'toward the speaker', 'away from the speaker', and deictically neutral. The frequencies of the constructions used are as follows (the numbers in the square brackets indicate token counts): (i) the construction with a converb form of *k'ol-* (50% [21]), (ii) the construction with a converb form of *hig-* (7.1% [3]), (iii) the construction with an adverbial made up of a locational noun and a converb form of *k'ol-* (2.4% [1]), (iv) the construction with a noun phrase with the allative suffix (2.4% [1]), (v) the verb of looking *la'-* is used, but the path is not expressed (31% [13]), (vi) the event is not treated as a visual event (7.1% [3]).

directs their eyes in a particular direction. In this construction, *hig-* may be used even for cases where neither the perceiver's posture nor the direction of their sight changes, but only the visual emanation is fictively depicted. The use of *hig-* in this construction is more common than that of *k'ol-*. Examples are given in (15)–(17).

(15)   *min-ú   giddó-ra   hig-g-e   la'-'-ú.*
        house-GEN.M inside-ALL turn-3SG.F-CNN look-3SG.F-R.PRF.3
        'She looked into the house.' (Lit. 'She turned to the inside of the house, and looked.')   (A9-50, Subject 12)

(16)   *… beétto   min-ú   giddó-ra   k'ol-t-e*
            child.NOM.F house-GEN.M inside-ALL cause.to.turn-3SG.F-CNN
        la'-'-á-nni   no.
        look-3SG.F-INF-AILM come.to.exist.D.PRF.3
        '… the girl is looking into the house.' (Lit. '… the girl directs (her eyes) to the inside of the house, and is looking.')[7]   (A9-51, Subject 1)

(17)   *íse   min-í-se   giddo   heed-d-e*
        3SG.F.NOM house-GEN.M-3SG.F.POSS inside.LOC stay/be-3SG.F-CNN
        gobbá-ra   hig-g-e/k'ol-t-e   la'-'-inó.
        outside-ALL turn-3SG.F-CNN/cause.to.turn-3SG.F-CNN look-3SG.F-D.PRF.3
        'She was in her house, turned outside, and looked.'

In this construction, different case forms of any of the locational nouns in (4) can occur to indicate visual path components, as in (18). (As in (18d) (and (21)), *hig-* and *k'ol-* mean 'move via' and 'cause to move via', respectively, when accompanying a locational noun with its final vowel lengthened and with the ablative-instrumental-locative-manner suffix. Only a locational noun with its final vowel lengthened, without the ablative-instrumental-locative-manner suffix, may be used to express the same notion, as in *giddo-ó*, as in (18d).)

---

7. In (15), *la'-* is in the progressive. In the Sidaama progressive construction, a distant perfect form of the state-change existential verb follows an infinitive verb with the subject person-number(-gender) suffix and *-nni*. This construction is also used in (22) and (24).

(18)   *íse*
       3SG.F.NOM

(a)   *al-í-ra/wor-í-ra*
      upperness-GEN.M-ALL/lowerness-GEN.M-ALL

(b)   *ané*   *wid-í-ra*
      1SG.GEN   direction-GEN.M-ALL

(c)   *lamé*   *hakk'iččo*   *mereer-i-ra*
      two.F.GEN   tree(GEN.F.MOD)   betweenness-GEN.M-ALL

(d)   *girgidd-ú*   *t'ullo*   *giddo-ó/giddo-ó-nni*
      wall-GEN.M   hole(GEN.F.MOD)   inside-LV/inside-LV-AILM

hig-g-e/k'ol-t-e
turn/move.via-3SG.F-CNN/cause.to.turn/move.via-3SG.F-CNN

la'-'-inó.
look-3SG.F-D.PRF.3

(a)   'She looked upward/downward.'
(b)   'She looked in my direction.'
(c)   'She looked between the two trees.'
(d)   'She looked through the hole in the wall.'

The verb of looking *la'-* can also take an object noun phrase referring to a stimulus that is located on the path expressed by the allative case suffix, as in (19).

(19)   *íse*   *balé-te*   *giddó-ra*
       3SG.F.NOM   hole-GEN.F   inside-ALL
       hig-g-e/k'ol-t-e   *beettó*   *la'-'-inó.*
       turn-3SG.F-CNN/cause.to.turn-3SG.F-CNN   child.AO   look-3SG.F-D.PRF.3
       'She looked at the child in the hole.' (Lit. 'She turned to the inside of the hole, and looked at the child.')

The construction with *hig-* or *k'ol-* can also be used for the vector combination FROM-TO (e.g. (20)) or for the vector VIA (e.g. (21)).

(20)   *íse*   *min-í-se*   *giddó-nni*   *gobbá-ra*
       3SG.F.NOM   house-GEN.M-3SG.F.POSS   inside-AILM   outside-ALL
       hig-g-e/k'ol-t-e   *isó*   *la'-'-inó.*
       turn-3SG.F-CNN/cause.to.turn-3SG.F-CNN   3SG.M.AO   look-3SG.F-D.PRF.3
       'She turned from the inside of her house to the outside, and looked at him.'[8]

---

8.   In order to express the same event as that expressed in (20), an expression that does not seem to involve only fictive motion may be used, as in (i):

(21) *ísi*   *hutt'-ú*   *t'ullo*   *giddo-ó-nni*
3SG.M.NOM hedge-GEN.M opening(GEN.F.MOD) inside-LV-AILM
hig-ø-e/k'ol-ø-e   *mančó*
move.via-3SG.M-CNN/cause.to.move.via-3SG.M-CNN person.AO
la'-ø-inó.
look-3SG.M-D.PRF.3
'He looked through the opening in the hedge at the person.' (Lit. 'He turned
via the inside of the opening of the hedge, and looked at the person.')

The type of motion expressed by *hig-* or *k'ol-* in this construction could be inter-
preted as part of a visual emanation event or as an event of the lateral motion of
the line of sight. Thus, it is not clear whether an event expressed with such a con-
struction is conceptualized as an instance of visual emanation or as an instance of
a combination of the lateral motion of the line of sight and visual emanation.

This construction normally requires one of the verbs of turning. Nevertheless,
these verbs can be omitted to form a construction with *la'-* and a goal noun phrase,
which seems to express visual emanation, as in (22) and (23), though this construc-
tion is only marginally acceptable in informal speech, according to my consultants.

(22) … *min-í-ra*   *la'-'-á-nni*   *no.*
house-GEN.M-ALL look-3SG.F-INF-AILM come.to.exist.D.PRF.3
'… she is looking into the house.' (Lit. '… she is looking to the house.')

(A9-50, Subject 14)

(23) *íse*   *gobbá-ra*   *(hig-g-e/k'ol-t-e)*
3SG.F.NOM outside-ALL (turn-3SG.F-CNN/cause.to.turn-3SG.F-CNN)
la'-'-inó.
look-3SG.F-D.PRF.3
'She looked outside.' (Lit. with *hig-g-e/k'ol-t-e*: 'She turned to the outside, and
looked.'/without *hig g e/k'ol-t-e*: 'She looked to the outside.')

In Sidaama, an adverbial can be used with person-number(-gender) inflection
formed with a locational noun to express the direction of visual emanation, with-
out specifying a ground object, as in (24), where *giddoogis-s-é* 'inward' is another
form of *gíddo k'ol-t-e* [inside cause.to.turn-3SG.F-CNN].

(i) *íse*   *min-í-se*   *giddo*   *heed-d̠-e*   *isó*
3SG.F.NOM house-GEN.M.MOD-3SG.F.POSS inside.LOC stay/be-3SG.F-CNN 3SG.M.AO
la'-'-inó.
look-3SG.F-D.PRF.3
'She was in her house, and looked at him.'

(24) … *giddoogis-s-é*   *la'-'-á-nni*   *no.*
      inward-3SG.F-CNN look-3SG.F-INF-AILM come.to.exist.D.PRF.3
      '… she is looking inward.'   (A9-50, Subject 1)

Sidaama also has another expression that is restricted to the vector VIA, specifically the 'across' path, where the verb of crossing, *tais-*, in one of its connective converb forms is followed by a verb of looking as the main verb, as in (25). As indicated in the two translations for (25), this construction is ambiguous between the interpretation of visual perception without the perceiver's physical motion and that of the perceiver's physical motion followed by visual perception. If the verb is any motion verb other than *tais-*, the sentence has only the literal interpretation of the perceiver's physical motion followed by visual perception.

(25) *ísi*   *doogó*   *tais-ø-e*   *la'-ø-inó.*
      3SG.M.NOM road.AO cross-3SG.M-CNN look-3SG.M-D.PRF.3
      'He looked across the road.' (Lit. and also interpreted as: 'He crossed the road, and looked.')

Thus, both for visual emanation and for a combination of the lateral motion of the line of sight and visual emanation, Sidaama usually uses the temporal sequence construction whose main verb is a verb of looking. Nevertheless, Sidaama also has yet another idiomatic construction (e.g. (26)), where the verb for tossing (also, dropping and pushing) is used as the main verb taking *ille* 'eye' optionally accompanied by the pronominal for the perceiver (e.g. *illé-se* eye.AO-3SG.F.POSS) as its object.

(26) *íse*   *illé*   *min-ú*   *giddó-ra*
      3SG.F.NOM eye.AO house-GEN.M inside-ALL
      (hig-g-e/k̓ol-t-e)   *tug-g-inó.*
      turn-3SG.F-CNN/cause.to.turn-3SG.F-CNN toss-3SG.F-D.PRF.3
      'She looked into the house.' (Lit. 'She tossed her eye to the inside of the house.')

Similar to the construction whose main verb is *la'-*, the construction with *tug-* expresses visual path components with different case forms of the locational nouns in (4), as in (27). However, unlike the construction with *la'-*, this construction uses one of the verbs of turning only optionally and in a limited way – neither verb of turning can be used for the VIA vector (e.g. (27d)). Also unlike the construction with *la'-*, this construction is incompatible with the FROM vector.

(27)   *íse*   *illé*
         3SG.M.NOM   eye.AO

    (a)   *al-í-ra/wor-í-ra*
        upperness-GEN.M-ALL/lowerness-GEN.M-ALL

    (b)   *ané*   *wid-í-ra*
        1SG.GEN   direction-GEN.M-ALL

    (c)   *amé*   *hakk'íččo*   *mereer-í-ra*
        two.F.GEN   tree(GEN.F.MOD)   betweenness-GEN.M-ALL

    (d)   *girgidd-ú*   *t'ullo*   *giddo-ó/giddo-ó-nni*
        wall-GEN.M   hole(GEN.F.MOD)   inside-LV/inside-LV-AILM

    (e)   *girgidd-ú*   *t'ullo*   *giddo-ra*
        wall-GEN.M   hole(GEN.F.MOD)   inside-ALL

    tug-g-inó.
    look-3SG.F-D.PRF.3

(a)   'She looked upward/downward.'
(b)   'She looked in my direction.' (Lit. 'She tossed her eye to my direction.')
(c)   'She looked between the two trees.'
(d)   'She looked through the hole in the wall.' (Lit. 'She tossed her eye through the hole in the wall.')
(e)   'She looked into the hole in the wall.'

It is not clear which typological pattern this construction should be analyzed as, but it is not a verb-framed pattern, given that the path occurs in non-main-verb constituents, specifically a locational noun and a case suffix, and the fact of visual perception is expressed with a combination of the verb for tossing as the main verb, which is not a path-of-motion verb, and its object noun phrase.

There are also two causative path-of-motion verbs whose connective converb form can precede the verb for tossing in this idiom to express a visual path; such constructions exhibit a pattern that is not verb-framed, as in (28) and (29) (see Cappelle, this volume, for seemingly similar but different examples in French, for example, *lever les yeux* 'raise one's eyes', whose verb occurs as a main verb). When they take *illé* 'eye (AO)' as their object, these causative path-of-motion verbs cannot be used as a main verb, but require the verb for tossing as the main verb, which shares the same object *illé*, to form this idiom. All the data on this construction, where the use of neither verb of turning is possible, are restricted to the VIA vector.

(28) *íse*   *illé*   *doogó*   *tais-ii-s-s-e*   *tug-g-inó.*
      3SG.M.NOM eye.AO   road.AO cross-EP-CAUS-3SG.F-CNN toss-3SG.F-D.PRF.3
      'She looked across the road.' (Lit. 'She made her eye cross the road, and tossed
      her eye.')

(29) *íse*   *illé*   *hutt'-ú*   *woro-o-nni*
      3SG.M.NOM eye.AO   hedge-GEN.M belowness-LV-AILM
      luut'-i-siis-s-e   *tug-g-inó.*
      move.through.with.difficulty-EP-DBL.CAUS-3SG.F-CNN toss-3SG.F-D.PRF.3
      'She looked through under the hedge.' (Lit. 'She made her eye move through
      under the hedge with difficulty, and tossed her eye.'

4.   Analysis and discussion

4.1   Can visual emanation be conceptualized as a macro-event?

As shown in Section 3, for self-agentive/non-agentive motion and agentive motion,
Sidaama predominantly exhibits the V-language pattern, in which the main verb
and the converb or a subordinate verb express a path and a manner, respectively.
However, this language does not follow this pattern in expressing visual emanation.
A verb of looking cannot serve as a V1 of either multi-verb construction, whose
verbs must have the same subject. If a verb of looking were a V1, and a path-of-mo-
tion verb were a V2, of the temporal sequence construction or the temporal overlap
construction, the sentence would mean 'The subject looked and (moved along a
path)' or 'While the subject was looking, s/he (moved along a path)', respectively.
Unlike agentive motion, visual emanation cannot be expressed with the agentive
version of either multi-verb construction. It is impossible to say anything like 'The
agent threw the visual probe into the house, and caused it to enter there' or 'The
agent caused the visual probe to enter the house, throwing it there' – as fictive mo-
tion, visual emanation is normally not expressed in such a palpable way. Moreover,
unlike manner-of-motion and means-of-causation verbs, which express the fact
of translational motion in addition to each type of co-event, verbs of looking nor-
mally do not express the occurrence of translational motion or any other motion
component even in S-languages.

   In addition to the fact that it is impossible to use a verb of looking as a V1 of
either multi-verb construction, or to use a lexical item for the figure object due to
the expression of visual emanation as fictive motion, there seems to be another
conceivable fundamental reason that many V-languages do not exhibit their charac-
teristic pattern in expressing visual emanation. This type of event may possibly not
be conceptualized as a motion macro-event with a path as its most core-schematic

component, whereas Talmy's typology is built on such macro-event expression patterns; his typology therefore does not apply to this type of event.[9]

As mentioned in Section 2, according to Talmy (1991, 2000b), a macro-event, to which his typology of event integration applies, is made up of two major components, a framing event and a co-event, as well as a support relation (e.g. manner or cause of motion, in the case of a motion event) of the co-event to the framing event. The framing event, which is the main event of a macro-event, constitutes the schematic component of the macro-event. It has a framing function relative to the macro-event, and possesses the properties discussed in Section 2.

In connection with the issue that the present study addresses, the question is whether or not visual emanation is conceptualized as a macro-event. The answer would appear to be no. If visual emanation were at all conceptualized as a macro-event, its framing event would be visual perception, which is not a type of motion. The most important component of visual emanation is the visual perception, rather than the figure's motion. Thus, when visual emanation is expressed, its component that is most relevant to the speech act of the sentence is not the path of visual emanation, but the visual perception. For example, if any of the sentences in (15)–(29) were negated, what is denied would be either the act of looking or both the act of looking and the path of visual emanation. The path of visual emanation alone cannot be denied. Therefore, visual emanation is not a type of event that can be conceptualized as a macro-event. It does not belong to motion or any of the other four event domains to which Talmy argues his typology of event integration applies.

4.2   Another type of case where V-languages can deviate from their characteristic pattern

There is another type of case where V-languages do not exhibit a verb-framed pattern. One reason for this again may also be that the expressed event is not conceptualized as a macro-event.

It is often claimed that in V-languages, verbs for co-events in motion events (e.g. manner-of-motion verbs) cannot serve as main verbs that take a ground +

---

9.   A further possible reason seems to be that the types of paths involving a visual emanation event are highly restricted. The path is always highly schematic – it must be straight, and can never be a concrete path like a zigzag, a curved path, or a return path. This is likely to make the use of a verb unnecessary, i.e., it would make it possible to express the schematic path with a non-main-verb morpheme, namely, a closed-class form such as a case marker or a more or less grammaticalized path-of-motion verb as a converb.

path phrase (i.e. a goal or source NP or PP) directly, but must be accompanied by a path-of-motion verb as a main verb (e.g. Van Valin and LaPolla 1997: 655). However, a number of researchers have reported that in some V-languages, manner-of-motion verbs serving as main verbs can sometimes take a ground + path phrase, though this is never their major expression pattern. For example, Aske (1989: 3, 7) provides some sentences like those in (30)–(32) as counterexamples to the V-language properties of Spanish.

(30) *La botella flotó* (a) *hacia la cueva*/(b) *por el canal.*
      'The bottle floated (a) toward the cave/(b) along/about the canal.'

(31) *La pelota rodó desde el tercer piso hasta el segundo.*
      'The ball rolled from the third floor to the second floor.'

(32) *Juan caminó por/a-traves del tunel* (a) *dos horas*/(b) ?*en dos horas.*
      'Juan walked through the tunnel (a) for two hours/(b) in two hours.'

Aske ascribes this to atelicity in aspect – the ground + path phrases in (30)–(32) are atelic because they do not predicate an endpoint at any specific location on the path, and are incompatible with a telic temporal phrase such as *en dos horas* 'in two hours', as shown in (32b), though they are compatible with an atelic temporal phrase such as *dos horas* 'for two hours', as in (32a). Thus, Spanish manner-verb predicates are incompatible with a path phrase containing the preposition *a* 'to', *de* 'from/off', or *para* 'to/for', which is interpreted as telic only when the verb predicate is a path verb.

   According to Aske (1989: 3), different types of verbs differ in the possibility of use in constructions like those in (30)–(32). Among Spanish manner verbs, "activity/manner verbs that strongly imply motion" (*correr* 'run', *nadar* 'swim', *rodar* 'roll', *flotar* 'float', *arrastrar* 'drag', *empujar* 'push') can be used as in (30)–(32). On the other hand, "verbs in which the manner of the activity is more salient" (*cojear* 'limp', *saltar* 'jump') are less likely to be used in these constructions, and "verbs that do not imply motion" (e.g. 'squeeze', 'twist', 'grab') cannot be used in them (Aske 1989: 3).

   On the other hand, Talmy (cited as p.c. in Slobin and Hoiting 1994: 498) and Slobin (1997, 2004) propose the so-called "boundary crossing constraint" on the use of manner verbs as main predicates in verb-framed languages – manner verbs cannot take a ground + path phrase when the figure object crosses a boundary, though some of them can take one when the figure object does not cross a boundary. According to Slobin and Hoiting (1994) and Slobin (1997, 2004), there are three types of boundary crossings, 'enter', 'exit', and 'cross', and when each type of boundary crossing occurs in the event to be described, manner verbs are under this constraint.

However, neither hypothesis can explain why V-languages normally follow their characteristic pattern when they express an event of ascending/descending or moving around with no participating ground object mentioned, where the vertically oriented or circular path is not bounded and does not involve boundary crossing, as in the Sidaama example in (33).

(33) *íse   dod-d-e   dirr-i-t-inó.*
       3SG.F.NOM run-3SG.F-CNN descend-EP-3SG.F-D.PRF.3
       'She ran down.'

Moreover, as shown in Section 4.3, in Sidaama, many co-event verbs (not only manner-of-motion verbs but also means-of-causation verbs) can take goal and source phrases, though, importantly, the types of events expressed with such constructions are not the same as those expressed using the V-language pattern.

Matsumoto (2003) proposes that in languages like Romance languages and Japanese, where the goal marker is also used as a locative marker, manner-of-motion verbs cannot take a goal complement because the goal/locative marker can be interpreted as expressing a goal with a translational motion verb (a path-of-motion verb), but not with a manner-of-motion verb on the other hand, in other V-languages (e.g. Modern Hebrew), where the goal marker and the locative marker have different forms, manner-of-motion verbs can take a goal phrase. However, this does not seem sufficient to explain why there are cases where manner-of-motion verbs can take not only goal phrases but also source phrases in V-languages (e.g. Japanese: *Eki kara aru-ita.* [station ABL walk-PST] 'I walked from the station.'). Furthermore, in Sidaama, where the goal marker and the locative marker have different forms, and have the same form only when the noun is Modified ("modified by a noun modifier, accompanied by the possessive pronominal suffix, or both", as mentioned in Section 3.1), manner-of-motion verbs can take a goal phrase. This type of construction, though acceptable, is considered to be not as good as the construction following the V-language pattern, and is used to express slightly different types of events compared to the latter. This subtle difference between the two constructions needs an explanation.

By examining cases in five languages where they use not only framing constructions that are characteristic of their typological patterns, but also those that are not, Croft et al. (2010) argue that Talmy's typology should not be regarded as a typology of language types, but should be revised to be a typology of construction types in languages, specifically the following construction types: verb-framing, symmetrical, satellite-framing, and double-framing (constructions that use both a verb and a satellite for a framing event). They further state that the symmetrical constructions have three subtypes: coordinate (e.g. coordination constructions as in Amele), serial

(e.g. serial verb constructions as in Mandarin), and compounding (e.g. Kiowa path + deictic verb compounding). Thus, according to Croft et al., languages cannot be classified into one of the typological types; rather, it is the constructions that themselves show typological properties. They propose implicational relations between situation types and construction types. In their approach, the above construction types can be placed along a scale in order of decreasing integration: double-framing, satellite-framing < verb-framing, compounding < coordination. Motion events differ in the conceptual commonness of path (in order of decreasing commonness, 'into'/'out of' < 'across' < 'follow'), and the more common the path is, the more likely a more integrated construction is to be used. Motion events also differ in the typicality or naturalness of the integration of motion components (in order of decreasing typicality as a human figure's manner of motion, 'run' < 'crawl' < 'float'), and the more typical the motion event is, the more likely a more integrated construction is to be used.

Although Croft et al.'s (2010) argument may apply to different types of motion and different types of construction types, they also are aware of, but do not analyze, cases where V-languages can use manner verbs (or more generally, verbs expressing co-events) as main verbs that take ground + path phrases. It is therefore not clear how their argument would be able to deal with such cases. As mentioned earlier, in Aske's Spanish examples, the more typical the motion event, the more likely it is that Spanish will allow the satellite-framing construction to be used ("activity/manner verbs that strongly imply motion" are more likely to be used in the satellite-framing construction than "verbs in which the manner of the activity is more salient", which are, in turn, more likely to be used in the satellite-framing construction than "verbs that do not imply motion" (Aske 1989: 3)). However, the Spanish examples where manner verbs can serve as main verbs that take ground + path phrases are limited to path types as in the paths in (30)–(32), and one would have to show that these path types, which seem likely to be expressed with more complex constructions across languages, are conceptually more common than bounded paths, including paths involving boundary crossing, which do not allow Spanish to use the satellite-framing construction.

Moreover, Croft et al. do not seem able to explain why V-languages normally exhibit their characteristic pattern for ascending and descending events, which seem to be conceptually common and a typical motion of a human figure. Furthermore, some of the examples in the languages that Croft et al. (2010) describe as deviations from their characteristic framing patterns (if Talmy's typology were a typology of language types) are not examples of macro-events. Such examples include 'The bottle entered the cave', where no co-event is involved, and 'I danced while I was crossing the street', whose main event component is a manner of motion, rather than motion along a path.

In fact, none of the hypotheses that have been proposed for the type of phenomenon as in the Spanish examples in (30)–(32) seems able to adequately explain other phenomena; therefore, the apparent impossibility of such events to be conceptualized as macro-events may be a plausible hypothesis.

4.3   Types of cases where Sidaama can deviate from the V-language pattern

As shown in Section 3.3, motion expressions in Sidaama predominantly display the V-language pattern, and the use of the multi-verb constructions is the most common way to express complex translational motion events. However, there are a few types of cases where this language does not follow the V-language pattern. In such cases, Sidaama can use two different constructions. In one, a manner-of-motion verb or a means-of-causation verb directly takes a complement for a path and a ground object, as in the Spanish examples (30)–(32). In the other, a connective converb form of a path-of-motion verb, for example, one of the verbs of turning (intransitive: *hig-*, transitive: *kʼol-*), additionally occurs. In fact, these constructions are also used for visual emanation. Presumably, the use of these constructions for a certain type of event is possible because the event is not conceptualized as a macro-event. The types of events expressed in these constructions are different from those expressed in the temporal sequence and the temporal overlap constructions as used for macro-events. The present subsection deals with four types of cases where Sidaama does not follow the V-language pattern, but can use the two constructions mentioned above. In all of the examples in (34)–(39), although the path-of-motion verbs in parentheses are optional, it is more common to use them.

First, manner-of-motion verbs and means-of-causation verbs in Sidaama can take an expression for 'toward, in the direction of …' and 'up to …', preferably, though optionally, with one of the verbs of turning, as in (34) and (35). This is a phenomenon discussed in Section 4.2. Note that in (34) and (35), the path does not terminate at the goal, but is only directed toward the goal (*wid-í-ra*), or terminates just before or in the vicinity of the goal (*geešša*).

(34) *íse*   *tulló-te*   *wor-i*
3SG.F.NOM mountain-GEN.F bottom-GEN.M.MOD
wid-í-ra/geešša   (*hig-g-e*)   *dod-d-inó.*
direction-GEN.M.MOD-ALL/degree turn-3SG.F-CNN run-3SG.F-D.PRF.3
'She ran in the direction of/up to the bottom of the mountain.' (with *hig-g-e*: Lit. 'She turned to the direction of/the degree of the bottom of the mountain, and ran.')

(35)   *íse*　　　*kaasé*　　　*waalč-ú*
　　　3SG.F.NOM　ball.AO　　　gate-GEN.M

　　　wid-í-ra/geešša　　　　　　　*(k̓ol-t-e)*
　　　direction-GEN.M.MOD-ALL/degree　cause.to.turn-3SG.F-CNN

　　{　(a)　*gongo'm-i-š-š-inó.*
　　　　　　roll-EP-CAUS-3SG.F-D.PRF.3

　　　　(b)　*ol-t-inó.*
　　　　　　throw-3SG.F-D.PRF.3　}

　　　'She rolled/threw the ball in the direction of/up to the gate.'
　　　(with *k̓ol-t-e*: Lit. 'She directed the ball to the direction of/the degree of the
　　　gate, and (a) rolled/(b) threw.')

Second, the large majority of manner-of-motion verbs and means-of-causation
verbs in Sidaama can take a goal-like phrase complement, as in (36) and (37).
In this construction, the use of one of the verbs of turning is preferable, though
optional. (This construction is impossible, however, with some manner-of-motion
verbs: *daak-* 'swim', *gaggab-* 'stagger', *rak-* 'hurry', *muddam-* 'hurry', *sasafam-* 'hurry
(often, in doing an unexpected activity)', and the means-of-causation verb *hiikk̓-*
'break (transitive)'.)[10]

(36)   *íse*　　　*tulló-te*　　　*wor-í-ra*　　　　　*(hig-g-e).*
　　　3SG.F.NOM　mountain-GEN.F　bottom-GEN.M.MOD-ALL　turn-3SG.F-CNN
　　　dod-d-inó.
　　　run-3SG.F-D.PRF.3
　　　'She ran toward the bottom of the mountain.' (with *hig-g-e*: Lit. 'She turned to
　　　the bottom of the mountain, and ran.')

---

10. This seems to apply when the goal noun phrase contains a locational noun. When the goal
noun phrase consists of only a noun, and does not contain a locational noun (e.g. *min-í-ra*
[house-GEN.M-ALL] 'to the house'), a somewhat different set of manner-of-motion verbs cannot
be used as main verbs: *daak-* 'swim', *gaggab-* 'stagger', and *jawaat-* 'hurry'. When the goal is
expressed with a genitive noun phrase for an object and a clitic for a goal or location ('to/at
the location of …'), which makes it possible to treat the object to which the noun phrase refers
like a location, yet a different set of manner-of-motion verbs cannot be used as main verbs:
gongo'm- 'roll', *daak-* 'swim', *gaggab-* 'stagger', *din-* 'limp', and *lečč'i (lečč'i) y-* 'walk tiredly'
(*kubb-* 'jump' cannot either, unless it means jumping as a one-time action, rather than as a
serious of actions).

(37) *íse*　　　　　*kaasé*　　*balé-te*　　　*giddó-ra*
　　　3SG.F.NOM　ball.AO　hole-GEN.F　inside-ALL

　　　(k'ol-t-e)
　　　cause.to.turn-3SG.F-CNN

　　　⎧　(a)　　*gongo'm-i-š-š-inó*
　　　⎪　　　　　roll-EP-CAUS-3SG.F-D.PRF.3
　　　⎨
　　　⎪　(b)　　*ol-t-inó.*
　　　⎩　　　　　throw-3SG.F-D.PRF.3

　　　'She rolled/threw the ball toward the inside of the hole.'
　　　(with *k'ol-t-e*: Lit. 'She directed the ball to the inside of the hole, and (a)
　　　rolled/(b) threw.')

(36) and (37) are possible only when the path is incomplete, in other words, the
arrival of the figure object at the goal is not implied; thus, 'toward', rather than 'to',
is used for the glosses for (36) and (37).

　　　Third, many Sidaama manner-of-motion verbs (except for *daak-* 'swim', *ǰawaat-*
'hurry', and *winam-* 'hurry') and means-of-causation verbs (except for *hiikk'-* 'break
(transitive)') can take a source phrase complement, though the use of *ka'-* 'start'
as a connective converb preceding the verb for a co-event is more common when
expressing the same event. An example is given in (38). The construction without
ka'- can be used only when expressing the path of the figure object's departure from
the source, and not to express a path along which the figure object travels after its
departure from the source.

(38) *íse*　　　　　*tulló-te*　　　　　*wor-í-nni*　　　　　　　　*(ka'-'-e)*
　　　3SG.F.NOM　mountain-GEN.F　bottom-GEN.M.MOD-AILM　start-3SG.F-CNN
　　　dod-d-inó.
　　　run-3SG.F-D.PRF.3
　　　'She ran from the bottom of the mountain.' (with *ka'-'-e*: Lit. 'She started from
　　　the bottom of the mountain, and ran.')

Fourth, for events involving a VIA path that is expressed with a locative noun
phrase, a co-event may be expressed with a main verb, as in (39). A connective
converb form of one of the verbs of turning commonly, though optionally, occurs
in this construction. Regardless of whether or not one of the verbs of turning is
used, the result of the co-event is not specified, though the co-event is completed.
(The arrival of the ball on the other side of the hedge can be specified with the use
of the causative form of another path verb as a main verb, e.g. *ol-t-e sa-i-s-s-inó*
[throw-3SG.F-CNN pass-EP-CAUS-3SG.F-D.PRF.3].)

(39) *íse   kaasé   hutt'-ú   t'ullo   giddo-ó-nni*
3SG.F.NOM ball.AO hedge-GEN.M opening(GEN.F.MOD) inside-LV-AILM
(k'ol-t-e)   ol-t-inó.
cause.to.turn-3SG.F-CNN throw-3SG.F-D.PRF.3
'She threw the ball through the opening in the hedge.' (with *k'ol-t-e*:
Lit. 'She directed the ball through the opening in the hedge, and threw it.')

In any of these cases, all of which S-languages would treat as macro-events, the figure object's completion of its translational motion to, away from, or via the ground object, which would be the framing event of the complex motion event as a macro-event, is not the main issue. When Talmy's definition of the 'framing event' component of a macro-event (see Section 4.1) is applied, it is the manner of motion or means of causation that is the most important component of each event. Thus, it is questionable whether such events are really what Talmy calls macro-events.

This applies more or less to at least a few other languages (e.g. Amharic, Tigrinya, Japanese), as far as I know. For example, the most important components of the events described in the following Japanese expressions are not motion macro-events: *eki kara aruku* [station ABL walk] 'walk from the station', *kisi ni muka-tte oyogu* [shore DLA turn-CNN swim] 'swim in the direction of the shore', and *booru o hito ni muke-te nageru* [ball ACC person DLA direct-CNN throw] 'throw a ball toward a person'.

The principle of salience of the manner of motion or means of causation in a motion expression in V-languages may be somewhat different from that in S-languages. In S-languages, the main verb (e.g. English *I flew to Hawaii last month.*) expresses event components (e.g. manner of motion) in a more backgrounded way than when they are expressed by an adverbial (e.g. *I went by plane to Hawaii last month.*) (Talmy 2000b: 128–133). This does not always seem to be the case in V-languages, whose manner-of-motion verbs and means-of-causation verbs normally do not serve to express motion along a path. In V-languages, manners of motion or means of causation may be more foregrounded when expressed by a main verb than when expressed by a non-main verb (e.g. a converb, an adverbial), because of a reverse principle (in which what is expressed by a main verb is more salient than what is expressed by a non-main-verb constituent), working for this type of language, and perhaps also partly because of the unusualness in V-languages of constructions with a manner of motion or means-of-causation verb appearing as the main verb.

As discussed in Section 4.2, Croft et al. (2010) argue that Talmy's typology applies not to individual languages as a whole but to construction types in languages, because languages usually do not follow the same pattern consistently. As they argue, it may be the case that more integrated constructions tend to be used for events where motion components are more integrated, and the degree of the

integration of event components can depend on different factors. However, there seems to be another independent reason that V-languages can use satellite-framing constructions, and this may allow V-languages to disobey the principle regarding the implicational relations between situation types and construction types. Events that look like macro-events seem to differ in whether or not they are really macro-events, and if not, how different they are from prototypical macro-events, and depending on this factor, the typological patterns may manifest differently. What remains to be investigated is whether this applies to co-events in motion events other than manners of motion and means of causation, and to semantic domains other than motion.

5.　Conclusion

This chapter has pointed out that unlike self-agentive/non-agentive motion and agentive motion, visual emanation does not seem to be conceptualized as a macro-event, although macro-events are the focus of Talmy's typology of event integration. It is conceivable that because of this, a language can express visual emanation very differently from self-agentive/non-agentive motion and agentive motion. Therefore, Talmy's typology, which concerns how the main event and the co-event (e.g. manner, cause) components are integrated into a macro-event, apparently does not apply to visual emanation: the most important component of visual emanation is the occurrence of visual perception, rather than the figure's motion. Like visual emanation, some types of events that appear to be instances of self-agentive/non-agentive motion and agentive motion but whose main event component is not the figure's motion through space are, in fact, not macro-events, and a language can deviate from the verb-framed pattern when it expresses such events.

In sum, a possible reason that a verb-framed language like Sidaama does not follow the characteristic V-language pattern in expressing visual emanation is that visual emanation events are not actually macro-events.

Acknowledgements

Funding

Abbreviations

ABL	ablative	GEND	gender
ACC	accusative	INF	infinitive
AILM	ablative-instrumental-locative-manner	LOC	locative
ALL	allative	LV	lengthened vowel
AO	accusative-oblique	M	masculine
CNN	connective converb	MOD	modified
CAUS	causative	NOM	nominative
D.PRF	distant perfect	NUM	number
DBL.CS	double causative	PERS	person
DLA	dative-locative-allative	POSS	possessive
EP	epenthesis	PST	past
F	feminine	R.PRF	recent perfect
GEN	genitive	SG	singular

References

Aske, J. 1989. Path predicates in English and Spanish: A closer look. *Proceedings of the 34th Annual Meeting of the Berkeley Linguistics Society*, 15, 1–14. https://doi.org/10.3765/bls.v15i0.1753

Banti, G. 2007. Remarks on the typology of converbs and their functional equivalents in East Cushitic. In S. Völlmin, A. Amha, C. Rapold, & S. Zaugg-Coretti (Eds.), *Converbs, medial verbs, clause chaining and related issues* (31–80). Köln: Rüdiger Köppe.

Bohnemeyer, J., Enfield, N. J., Essegbey, J., Ibarretxe-Antuñano, I., Kita, S., Lüpke, F., & Ameka, F. K. 2007. Principles of event segmentation in language: The case of motion events. *Language*, 83, 495–532. https://doi.org/10.1353/lan.2007.0116

Cifuentes-Férez, P. 2014. A closer look at Paths of vision, Manner of vision and their translation from English into Spanish. *Languages in Contrast*, 14(2), 214–250. https://doi.org/10.1075/lic.14.2.03cif

Croft, W., Barðdal, J., Hollmann, W., Sotirova, V., & Taoka, C. 2010. Revising Talmy's typological classification of complex events. In H. Boas (Ed.), *Contrastive construction grammar* (201–235). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cal.10.09cro

Gruber, J. S. 1967. Look and see. *Language*, 43, 937–947. https://doi.org/10.2307/411974

Haspelmath, M. 1995. The converb as a cross-linguistically valid category. In M. Haspelmath & E. König (Eds.), *Converbs in cross-linguistic perspective: Structure and meaning of adverbial verb forms – adverbial participles, gerunds* (1–55). Berlin & New York: Mouton de Gruyter.

Kawachi, K. 2007. A grammar of Sidaama (Sidamo), a Cushitic language of Ethiopia. Ph.D. dissertation, State University of New York at Buffalo.

Kawachi, K. 2012. Event integration patterns in Sidaama (Sidamo). *Proceedings of the 34th Annual Meeting of the Berkeley Linguistics Society, General Session*, 175–186. Berkeley, CA: Berkeley Linguistics Society. https://doi.org/10.3765/bls.v34i1.3566

Kawachi, K. 2018. Event integration patterns in Sidaama and Japanese. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics* (313–342). Berlin & Boston: De Gruyter Mouton. https://doi.org/10.1515/9781614514077-012

Kawachi, K. (with the help of data provided by Y. Abe, O. Hieda, K. Koga, J. Komori, M. Wakasa, N. Yoneda, & H. Yoshino). 2016. Introduction: An overview of event integration patterns in African languages. *Asian and African Languages and Linguistics*, 10, 1–36. [Permanent URL: http://hdl.handle.net/10108/85062]

Kawachi, K. 2020. Sidaama. In R. Vossen, & G. J. Dimmendaal (Eds.), *The Oxford handbook of African languages* (543–552). Oxford: Oxford University Press.

Kawachi, K. Forthcoming. Sidaama. In B. Wakjira, R. Meyer, Y. Treis, & Z. Leyew (Eds.), *The Oxford handbook of Ethiopian languages*. Oxford: Oxford University Press.

Matsumoto, Y. 2001. Lexicalization patterns in the descriptions of caused motion and fictive motion. Presented at the University at Buffalo on October 5, 2001.

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In S. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A festschrift for Masaru Kajita* (403–417). Tokyo: Kaitakusha.

Matsumoto, Y. (Ed.). 2017. *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Slobin, D. I. 1997. Mind, code, and text. In J. Bybee & J. Haiman (Eds.), *Essays on language function and language type* (437–467). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/z.82.24slo

Slobin, D. I. 2004. The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Mahwah: Lawrence Erlbaum Associates.

Slobin, D. I. 2009. Relations between Paths of motion and Paths of vision: A crosslinguistic and developmental exploration. In V. C. M. Gathercole (Ed.), *Routes to language: Studies in honor of Melissa Bowerman* (197–222). New York & London: Psychology Press.

Slobin, D. I., & Hoiting, N. 1994. Reference to movement in spoken and signed languages: Typological considerations. *Proceedings of the Twentieth Annual Meeting of the Berkeley Linguistics Society*, 487–505. https://doi.org/10.3765/bls.v20i1.1466

Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and lexical descriptions, Vol. 3: Grammatical categories and the lexicon* (36–149). Cambridge: Cambridge University Press.

Talmy, L. 1991. Path to realization: A typology of event conflation. *Proceedings of the Seventeenth Annual Meeting of Berkeley Linguistics Society*, 17, 480–519. https://doi.org/10.3765/bls.v17i0.1620

Talmy, L. 1996. Fictive motion in language and 'ception'. In P. Bloom, M. A. Peterson, L. Nadel, & M. F. Garrett (Eds.), *Language and space* (211–276). Cambridge, MA: MIT Press.

Talmy, L. 2000a. *Toward a cognitive semantics, Vol. I: Concept structuring systems*. Cambridge, MA: MIT Press.

Talmy, L. 2000b. *Toward a cognitive semantics, Vol. II: Typology and process in concept structuring*. Cambridge, MA: MIT Press.

Van Valin, R. D., Jr., & LaPolla, R. J. 1997. *Syntax: Structure, meaning and function*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139166799

Looking into visual motion expressions in Dutch, English, and French

How languages stick to well-trodden typological paths

Bert Cappelle

University of Lille

This study investigates visual motion expressions in Dutch, English, and French. As a translation corpus, I use Roald Dahl's children's book *The Witches*, which abounds in staring and peeping events, and its Dutch and French translations. Based on the hypothesis that languages' constructional repertoires for physical motion are exploited for visual motion, one can predict, correctly, that Dutch uses its syntactically wide variety of path complement types in the domain of visual motion. It is tempting to assume that French, lacking looking verbs expressing path, would lose its generally verb-framed nature in visual motion descriptions. However, French appears to preserve some of its typological identity, by using causative path verbs such as *lever* 'raise' combined with an object meaning 'one's eyes/gaze'. In keeping with its verb-framed nature, French uses fewer visual path complements than Dutch and English, but it does have, and frequently uses, manner-of-vision expressions.

Keywords: manner, path, satellite-framed, translation, verb-framed

1. Introduction

This study explores the strategies that Dutch, English, and French provide to describe events in which someone's eyes are directed toward someone or something. I speak here of *visual motion* descriptions, following Slobin's (2009) terminology. As the web-attested examples in (1a)–(c) show, a single language (in this case English) may vary in its choice of verb, in whether or not it uses verb-external material related to the trajectory of the gaze, and if it does, in the complexity of that material:

(1) a. He looked at me and stared across the cafeteria.[1]
     b. His black piercing eyes penetrated me.[2]
     c. He would look up from his book over the tops of his glasses at Mathew …[3]

In (1a), a manner-neutral verb of looking, namely the verb *look* itself, alternates with the verb *stare*, which conflates the notion of looking with manner-of-vision information, as *stare* can be defined as 'look fixedly or vacantly at someone or something with one's eyes wide open' (Oxford Dictionaries n.d.). Unlike in (1a), where a path-expressing prepositional phrase (PP) appears after both *looked* and *stared*, no such verb-external constituent is used in (1b), which instead contains a verb that conflates motion and path (and also manner, in fact), as *penetrate* is defined as 'go into or through (something), especially with force or effort' (Oxford Dictionaries n.d.). It is in combination with the looker's eyes as a moving entity, used metonymically for the look or gaze coming from the eyes, that the event can be interpreted as one of visual motion.[4] In (1c), the verb is followed by a complex constituent, or perhaps several simple constituents, comprising verb-external material that refers in great detail to the trajectory of the gaze: the source location (*from his book*, which is actually an original *endpoint* of the gaze), a middle point or so-called "milestone" along the path (*over the tops of his glasses*), and the (final) endpoint (*at Mathew*), as well as the direction in which the gaze "as a whole" rotates (*up*); cf. Section 2 for further discussion. These few examples illustrate that, when it comes to expressing events of visual motion, several encoding choices are available to speakers of a language. As can be expected, the degree to which a constructional option is readily available differs from one language to the next, depending on how well that option corresponds to the language's overall structural preferences. In this chapter, the central idea to be investigated is whether speakers of a language follow encoding strategies for the expression of visual motion events that are similar to the ones afforded to them by that language for the expression of physical motion events. The investigation remains fairly exploratory, involving two Germanic languages

---

1. https://www.wattpad.com/546891529-puzzled-feelings-chapter-2~mysterious-new-guy, last accessed 30 August 2018.

2. http://remember.org/witness/cohen, last accessed 30 August 2018.

3. https://www.westboroughfuneralhome.com/notices/Richard-Holt/guest-book, last accessed 30 August 2018.

4. In the related sentence *He penetrated (or pierced) her with his eyes*, the eyes are construed as an instrument rather than as moving entity (theme) and in that case, one could argue that we are not dealing with visual motion (movement of the gaze) but with physical motion, albeit metaphorically understood: it is as *if* he got through her using his eyes. I thank Jaakko Leino for discussing the case of *penetrate* with me.

(Dutch and English) and one Romance language (French); these are languages that are known to either correspond or differ in crucial ways with respect to the encoding of physical motion events.

Contrastive and typological linguists have indeed investigated in considerable detail the linguistic expression of events in which a tangible object actually moves through space. Influential work in this domain has been done by Talmy (1985, 1991, 2000), to whom we owe the well-known, if increasingly controversial, distinction between satellite-framed and verb-framed languages, based on a language's default choice as to where to encode the path of motion (i.e. either in an element external to the verb, or in the verb itself). English and Dutch are said to be satellite-framed languages, since in descriptions of someone/something moving from one place to another, the verb typically expresses (manner of) motion, leaving the path to be expressed in a so-called 'satellite' (e.g. a particle, as in English *run in*, or a separable prefix, as in Dutch *weg·vliegen*, 'fly <u>away</u>'). French is said to be a verb-framed language, since in most descriptions of place-to-place motion, the verb conflates the semantic elements of motion and directional path in a single morpheme (e.g. *entrer* = move + from outside to inside), with manner of motion expressed, if at all, outside the main verb root (e.g. … *en courant* '… while running'). Over the years, Talmy's proposals have been developed, challenged, and modified by, among others, Slobin (2004, 2006), Zlatev and Yangklang (2004), Beavers et al. (2010), Croft et al. (2010), Ameka and Essegbey (2013), Berthele (2013), Malt et al. (2014), Pavlenko and Volynsky (2015), and Matsumoto (this volume). There is now a largely held view in the field of motion expression research that a simplistic distinction between satellite-framed and verb-framed languages should be abandoned. At best, we can only speak of satellite-framing versus verb-framing *strategies* that languages can employ, and then we are not even counting mixed, so-called equipollently framed patterns. Nevertheless, it seems to me that many researchers, including myself, still feel they can meaningfully and justly speak of satellite-framed languages and verb-framed languages in those cases where there is great consensus that the preferred encoding option for paths is outside or in the verb, respectively. For further information and references to the rich scholarly literature on the crosslinguistic encoding of motion events, see Talmy's (2017a) foreword and Ibarretxe-Antuñano's (2017a) introduction to, and several papers in, Ibarretxe-Antuñano's (2017b) recent edited volume, as well as the introduction to the present volume.

What has received rather scant attention in this literature is how different languages encode *visual* motion events (but see Matsumoto 2001, Slobin 2009, and Cifuentes-Férez 2014). This is not to say that there has not been much research on the broad range of phenomena that fall under what Talmy (1996, 2000, 2018) calls "fictive motion", whereby an obviously stationary scene is fictively portrayed as dynamic by the use of motion-related imagery. In recent decades, extensive literature

has arisen on this topic, which has been given a variety of terms: apart from "fictive" motion (Talmy's previously mentioned work; Rojo and Valenzuela 2003; Matlock 2004a, 2004b; Cappelli 2013; Matlock and Bergman 2015; Stosic et al. 2015; Waliński 2018), scholars have discussed it as "abstract" or "virtual" motion (Talmy 1983; Langacker 1986, 1987, 2000, 2005; Matlock 2010), "subjective" motion (Matsumoto 1996a, 1996b), and "non-actual" motion (Blomberg 2014, 2015, 2017; Blomberg and Zlatev 2014), or have subsumed it under the more general category of "figurative" motion (Caballero 2017) or "metaphorical" motion (Özçalışkan 2004, 2005; Özçalışkan et al. 2017). Yet, as is rightly observed by Talmy (2017a: 1), "research on fictive motion has addressed mainly coextension paths out of the full set of path categories." In (2), I provide an authentic example of this much-studied category, whereby "the form, orientation, or location of a factively stationary extended object is represented in terms of a fictive path over the object's extent" (Talmy 2017a: 10):

(2) The fortifications ran from south to north for hundreds of kilometers, through forest and marsh, round the shores of lakes, and along the banks of small rivers and streams. (Morton, Miriam. 1967. *A Harvest of Russian Children's Literature*. Berkeley and Los Angeles, CA: University of California Press, p. 452)

Visual motion, by contrast, is a much less researched subcategory of fictive motion. Events of visual motion involve what Talmy refers to as 'sensory paths'. In this category, "the fictive entity is a continuous sensory probe that moves from an experiencer along a straight path through space (to an experienced object)" (Talmy 2017a: 9). In the next section, I define the category in more detail and briefly address the question of how *fictive* visual motion really is. Sections 3 to 6 then present an empirical crosslinguistic study: hypotheses and predictions are given in Section 3, the method in Section 4, and results and discussion in Sections 5 and 6. My conclusion is formulated in Section 7, along with an invitation to my fellow researchers to explore visual motion encoding in a wider range of languages.

2. What is visual motion, and how fictive is it?

In this study, I define a visual motion event as follows:

Visual motion event (definition):

Sense 1: An event in which the gaze of an agentive perceiving experiencer is conceptualized as something emanating from an experiencer's eye(s), moving from them (or it) in a straight line (i.e. sightline, also known as the line-of-sight or visual axis) towards a perceived object and ultimately making contact with that object or even penetrating it;

Sense 2:   An event in which the gaze, in addition to being conceptualized as something emanating from an experiencer's eye(s) (see Sense 1), moves in one or several directions, in order to shift the experiencer's attention from one perceived object to another, in order to perceive a larger range of objects together, in order to track (i.e. not lose sight of) a moving object, etc.

These two senses correspond to Talmy's (1996: 220) "axial fictive motion along the line of sight" and "lateral motion of the line of sight", respectively. "Lateral" motion is not a very fortunate term, however, as it also concerns cases where the gaze does not move sideways but moves upward or downward or darts around; in other words, the gaze is said to undergo lateral motion in all possible cases of "shifts in its orientation" (Talmy 1996: 220).

In a visual motion event in Sense 1 only, without the addition of Sense 2, the gaze stays fixed, at least when we view the gaze holistically, as a complete(d) line already in place between the eyes and the perceived object. That is why Talmy calls it a kind of *fictive* motion: in *He stood there staring out of the window*, for instance, the scene is static in reality but represented as if it were dynamic. The gaze point (i.e., the endpoint of the line segment representing the gaze) may not move at all – indeed, the person may absent-mindedly rest his eyes (so to speak) on a single object in the distance – but just as in Example (2), this static situation is linguistically encoded as one involving motion. We imagine the scene as involving a "sensory probe", as Talmy puts it, that starts its journey from the eyes of the observer, moving through an aperture (the window) and thus traveling onward through the space on the other side of it. This probe is obviously an imaginary object, as is the gaze that comes into being as a result of the probe's journey. The gaze is often pictured as a laser-like beam that "shoots out" of the experiencer's eyes. Visual motion in this sense is a case of imagined "emanation", that is, "fictive motion of something intangible emerging from a source" (Talmy 2000: 105). This does not correspond with what happens in reality, where the light from the sun or another light source is reflected off objects, thus rendering them visible to us. Our imagination is deceptive, which is why we can justly call Sense 1 visual motion "fictive". There is not really such a thing as a probe that moves from our eyes to a distant object; rather, electromagnetic radiation, in the form of photons, travels from the distant object to the retinas in our eyes, creating a sensation of vision. Moreover, this journey takes hardly any time at all, as photons travel at the speed of light, close to 300,000 km per second, so any object or event in our range of sight in our earthly environment, including something rather "distant" on the horizon, can be instantly perceived, as soon as our retina is appropriately aligned with it.

In the case of a Sense 2 visual motion event, we cannot as readily dismiss the motion as being wholly "fictive". True enough, the gaze is still something imaginary,

since no ray or beam really comes out of the eyes, not even an invisible one. Still, the sightline as a mental construct can actually move in space and this motion can take up some real time, which is why we can say, for instance, *She slowly looked around the room*. It is precisely the inherently dynamic nature of Sense 2 visual motion events that lies at the basis of eye-tracking experiments, where the researcher is interested in the places the gaze travels to and the paths it follows in doing so (cf. Soroli et al. 2019). However, since the gaze is not a physical object, what is recorded are actually occurring ocular movements, that is, rotations of the eyes in their sockets. But from these swivel movements, we can calculate the gaze trace, that is, the trajectory described by the gaze point, where the sightline intersects with a plane (generally a computer screen). Apart from eyes rolling in their sockets, Sense 2 visual motion may involve rotations of the head or of the whole body. We can scan a scene sequentially, that is, in a linear or orderly, step-by-step fashion. However, the trajectory of our gaze point need not always be smooth or be characterized by minimal intermediary transitions, as when we throw looks (as it were) from one person or object to another in a discrete fashion, in cases where these people and/ or objects are not located close to each other (cf. also Soroli 2011 for the distinction between "sequential" and "ballistic" scanning, corresponding to two distinct ways of visual processing, i.e. either focally or globally).[5]

What we can conclude from the above discussion is that visual motion may concern non-actual (fictive) motion of the sensory probe forwards from the eyes or actual ("factive", in Talmy's terms) motion of the still immaterial gaze as a whole (or in fact, the sightline representing the gaze) through space. It can also be a combination of these, as in Example (1c), repeated below as (3):

(3)   He would look up from his book over the tops of his glasses at Mathew …

Here, *up* relates to the actual motion of the sightline from an original orientation, where it intersects with the book, to a new orientation where it can intersect with (the face of) Mathew. *Over the tops of his glasses*, however, relates to non-actual motion, as the sightline, once it has acquired its new orientation, is not actually a trajectory along which a sensory probe "passes" by intermediate locations.

Note, curiously, that the paths of actual (factive) and non-actual (fictive) visual motion can share a single verb. This is also true in events where it is definitely more than just the eyes that swivel. For instance, in *He looked around at her*, the subject referent's head or perhaps whole body has to turn around before the object can be

---

5.   Discrete jumps of the sightline are not necessarily part of an attempt to globally scan a scene, however. See, for example, Talmy's (2017b: 222) discussion of *That's my boss*, where a speaker, while talking to a friend, uses just his eyes as a pointing device, by swiveling them quickly to a woman who had just stepped into a room and then equally quickly back to his friend.

perceived. Here, too, there is actual motion of the sightline, around the head or body as the center of rotation, and non-actual motion, of a sensory probe along the re-oriented sightline. That speakers do not have to say *He turned his head to look at her* or *He turned around to look at her* is revealing. It demonstrates that actual visual motion (in this case, the rotation of the whole gaze) and fictive visual motion (in this case, the moving forward of the gaze to the target) are sufficiently closely related in speakers' conceptualization of acts of looking to allow their respective paths to "merge" into a single path. If they were treated as involving distinct looking events, each with their own path, sentences such as (3) and *He looked around at her* would be unacceptable, as they would then violate the Unique Path Constraint (Goldberg 1991; Yasuhara 2013a, 2013b), whereby not more than one distinct path can be predicated of an entity within a single clause.

3.   Hypotheses and predictions

3.1   Rationale

In his paper on "relations between paths of motion and paths of vision", Slobin (2009: 197–198), comments on the great similarity in human conceptualisation between actual motion and non-actual (in Sense 1 above) visual motion, connecting insights to be found in the works of Plato, Aristotle, and much later, Geoffrey Gruber:

> Whatever the facts of physics and physiology, I feel that I look *out* at the world through my eyes; that I can look *through* the window *over* the treetops *down towards* the city below. The ancient Greeks, too, thought that the eyes send out beams that meet objects and make them visible to us. And linguists, starting at least with Gruber in 1967, have noted that verbs of perception appear in the same syntactic and semantic constructions as verbs of motion.   (Slobin 2009: 197–198)

For Gruber (1967), not just *look* but also *see* behaves like a verb of motion, as *Jane saw into the room* means something like 'Jane's gaze went into the room'. This analysis is echoed by Goldsmith (1979), Jackendoff (1983), and more recently by Broccias (2003) and Gisborne (2010), according to whom both *look* and *see* have an implicit theme argument (referring to a moving entity), corresponding to the gaze emitted by the subject referent – at least in people's "naïve view of physics" (Broccias 2003: 64), as discussed in the previous section. Thus viewed, a visual motion event is a kind of caused-motion event. Apart from the absence or presence of an overt theme, we should expect both kinds of events to be expressed very similarly.

Taking Gruber's (1967) and these other linguists' observations as our overall guiding hypothesis, I explore in this chapter the various ways in which visual

motion can be linguistically expressed, focusing on three languages, Dutch, English, and French, each of which exploits particular linguistic means of expressing the actual motion of a tangible object through space. My aim is to find out whether these languages' individual expressive strategies for physical motion are paralleled in the domain of visual motion. If visual motion is conceptualized as actual motion (or may even involve actual motion; cf. Section 2), it seems reasonable to suppose that the grammatical structures used for describing a real object's motion in space should also be found for describing visual motion. The principle behind this line of thinking is simply that similar meanings are expected to map onto similar forms. A crisper formulation of this idea is the principle of isomorphism, or "one meaning, one form". In this case, "one meaning" can be taken to refer to 'motion', whether it is physical or visual motion; and "one form" would then mean that a language uses one set of available structures for the expression of this meaning. That is, suppose we found completely different structures being exploited for visual motion versus physical motion in a language: such a finding would undermine the view expressed above that the two domains, i.e. those of vision and of motion, are conceptually linked.

3.2   Specific hypotheses and predictions

Three specific hypotheses are discussed here. First, if we assume that there is a conceptual link between visual and physical motion – or if visual motion may even comprise by physical motion – then its implication for the linguistic expression of visual motion can be formulated as follows:

Hypothesis 1:   The structural patterns available for the expression of physical motion in a language are also used for the expression of visual motion in that language.

It is important to remember that what is proposed here is really only a hypothesis. As such, it needs to be put to the test. On the basis of empirical data, Hypothesis 1 may well prove to be entirely wrong, to be valid for a particular typological group of languages only, or to allow for exceptions. It is beyond the scope of this chapter, however, to test the hypothesis on a wide range of languages. I use the above hypothesis to make a concrete prediction about Dutch, a language in which structural patterns for the expression of motion are much more varied than, say, in English. Table 1 provides an overview of the available patterns to describe physical motion events in Dutch, as represented in the Dutch translation of Roald Dahl's children's book *The Witches* (see Section 4.1 for more information on this corpus). Here and elsewhere in this chapter, "light" glosses are used, i.e. word-by-word translations

from Dutch or French (back) to English without detailed grammatical information. I also provide the original sentence (or sentence fragment) from the English source text, but when this original sentence is (practically) identical to the light gloss, the latter is omitted; that is, the original sentence (fragment) then functions as the gloss. Throughout this chapter, I generally mark verbs in boldface and path-expressing elements with underlining.

Table 1. Patterns of physical motion in the Dutch translation of Roald Dahl's *The Witches*; word-by-word glosses of the translation are given insofar as the word order is different from the English original

Structure	Example
verb with <u>PP</u>	Jonge Leif **dook** <u>in het water</u>. (*De heksen*, p. 19) 'Young Leif dived into the water.' (*The Witches*, p. 15)
verb with <u>separable prefix</u>	Toen hij eindelijk <u>boven</u>**kwam**, was hij Leif niet meer. (*De heksen*, p. 19) when he finally above-came, was he Leif not anymore. 'When he came to the surface at last, he wasn't Leif anymore.' (*The Witches*, p. 15)
verb with <u>(inseparable) prefix</u>	Jongens kunnen <u>over</u>**reden** worden door auto's (*De heksen*, p. 107) boys can over-driven be by cars 'Little boys can be run over by motor-cars' (*The Witches*, p. 105)
verb with <u>locative adverb (phrase)</u>	Als je <u>beneden</u> **komt** mag je hem hebben (*De heksen*, p. 40) if you down come may you him have 'If you come down here, I shall give him to you' (*The Witches*, p. 38)
verb with <u>'postpositional' phrase</u>	Ik **liep** <u>een lange brede gang door</u> (*De heksen*, p. 49) I ran a long wide corridor through 'I went down a long wide corridor' (*The Witches*, p. 49)
verb with <u>pronominal adverb</u>	Bruno **sprong** <u>er</u> meteen <u>in</u> (*De heksen*, p. 113) Bruno jumped there immediately in 'Bruno jumped straight into it' (*The Witches*, p. 113)
verb with <u>circumpositional phrase</u>	Toen **kroop** ik <u>tussen de aardappels uit</u> (*De heksen*, p. 158) then crept I between the potatoes out Then I crept out of the potatoes (*The Witches*, p. 153)
verb with <u>two or more of the above-mentioned kinds of path complements</u>	dan **zetten** we hem <u>over ons eigen haar heen</u> <u>op</u> (*De heksen*, p. 23) (caused-motion verb with circumpositional phrase and separable prefix) then set we him above our own hair away on 'we would be putting it on over our own hair' (*The Witches*, p. 20)

In Table 1, scare quotes are used around *postpositional*, since there is considerable debate among Dutch grammarians as to whether this kind of adposition is really a postposition or, rather, some sort of separable prefix, i.e., a verb particle (cf. Beliën 2008 for a book-length treatment of this pattern; Cappelle 2015). A similar discussion exists for English structures such as *I read the paper through* or *She sailed the world around* (cf. Cappelle 2005: 144–147, 2013). Pronominal adverbs are words like *daarin* ('therein', 'in that'), *hierop* ('hereon', 'on this'), *waarnaar* ('whereto', 'to which'), and *erover* ('thereover', 'over it'). They are used much more frequently in Dutch than are their one-word counterparts in English. The two components of a pronominal adverb can be separated from each other in Dutch.

Given this variety of patterns, Dutch is an ideal language to test Hypothesis 1, which leads to the following concrete prediction:

Prediction 1:   The same rich array of Dutch structural patterns used to express physical motion (verbs with prepositional phrases, separable prefixes, inseparable prefixes, postpositional phrases, circumpositional phrases, etc.) are also used to express visual motion.

In addition to testing this prediction, I also compare the available patterns of visual motion in Dutch with those in both English and French. Despite various adjustments of and alternative proposals to Talmy's typology (e.g. Slobin 2004; Beavers et al. 2010; Croft et al. 2010), his insights have been usefully applied in a multitude of studies. Most of these, however, only deal with physical motion or with a small subset of fictive motion categories. For visual motion, much descriptive work remains to be done. If visual motion is similar to physical motion, the framing event could be argued to concern the imaginary path along which the perceiver's sensory probe moves (from the looker's eyes to the perceived object) and/or the actual path along which the sightline moves (e.g. sideways from one object to another). The moving entity or so-called "Figure" (referred to by the implicit theme argument) is then the "tip" of the gaze, as we can imagine it coming out of someone's eyes, and/or the gaze or sightline viewed as a whole. Less clear is what might constitute a manner co-event in visual motion, because the line of sight is always straight; therefore, the sensory probe following that line cannot, for example, meander or hop. However, the (implied) shifts in orientation of the sightline (visual motion in Sense 2) can be characterized as happening abruptly, smoothly, etc. One possible example of a manner-of-looking verb that encodes such a meaning is English *glance* and its multi-word equivalents *een blik werpen* and *jeter un coup d'œil* (both 'throw a glance') in Dutch and French, respectively. *Glance* may also be seen as relating to another manner component that can be lexicalized, namely the duration and intensity of the speaker's look, that is, how long the gaze point rests on the perceived entity and with how much attention the experiencer appears to direct their

gaze toward the perceived object (compare, e.g., *glance* and *gaze*). Insofar as visual motion relates to an act of perception, we could perhaps also think of various psychological states of the perceiver as somehow relating to manner of visual motion: Is the perceiver casting an angry look at something? Or looking stealthily at it?

Even though for each of the component parts of a physical motion event complex we might be able to propose some kind of counterpart for a visual motion event, it should be clear from the present discussion that the analogy between physical and visual motion is far from perfect. Unsurprisingly, then, the analogy may be rejected or downplayed, as is done by Kawachi (this volume) and Matsumoto (this volume). In this chapter, I nevertheless assume that visual motion is conceptually similar enough to physical motion to be expressed in similar ways – at least, this is what is investigated here.

Two further hypotheses, however, remain to be tested. One is by Matsumoto (2001, quoted in Slobin 2009), namely that if a language prefers to lexicalize the path of physical motion in the verb, its verb-framed lexicalization preference does not quite carry over to the expression of visual motion:

Hypothesis 2:   "The verb-framed nature of verb-framed languages tends to be lost in the description of … fictive motion of emanation … allowing flexibility in describing … emanation." (Matsumoto 2001: 9, quoted in Slobin 2009: 205)

Slobin (2009), relying on Matsumoto (2001), explains this as follows:

> Matsumoto notes that verb-framed languages do not provide a set of distinct visual path verbs comparable to physical path verbs such as 'enter/exit', 'ascend/descend', and the like. That is, … there are no verbs that conflate 'look' with 'in' or 'peer' with 'out'. As a consequence, all types of languages are forced to use path expressions (adpositions, particles, directional adverbs, etc.) in combination with verbs of looking.
> (Slobin 2009: 205)

If Matsumoto's hypothesis turns out to be correct, this means that Hypothesis 1 above cannot be interpreted as being universal. At best, it could then only hold for satellite-framed languages. We therefore need to check if verb-framed languages indeed do not use path verbs for visual motion, adopting other lexicalization strategies instead. Kawachi (this volume) found confirmation for Matsumoto's hypothesis for the Afro-Asiatic language Sidaama. Matsumoto's "flexibility" hypothesis also translates into a specific, testable prediction for French, generally treated as a verb-framed language:

Prediction 2:   French does not generally rely on verb-framed strategies for the expression of visual motion. That is, French constructions of visual motion do not lexicalize the visual path in the verb.

A final hypothesis we need to test concerns whether or not verb-framed and satellite-framed languages differ in how often a manner-of-vision verb (e.g. *glance* rather than *look*) is used, in how often a path of vision is expressed, and in how complex this path argument is:

Hypothesis 3:   Verb-framed languages use fewer manner-of-vision verbs and fewer and less complex visual path arguments compared to satellite-framed languages.

Hypothesis 3 would seem to be incompatible with Hypothesis 2 (which proposes that verb-framed languages lose their verb-framed nature when it comes to expressing visual motion, in that they lack specific visual motion verbs that encode the path of vision). However, Hypothesis 3 merely concerns some of the well-known correlates of Talmy's framing typology, namely that satellite-framed languages tend to have larger, more varied vocabularies of manner-of-motion verbs than verb-framed languages, and that they also tend to make more frequent use of verb-external path arguments, which moreover tend to be more complex, consisting of stacked particles, prepositional phrases added to a single motion verb, prefixes, etc. (e.g. Berman and Slobin 1994; Slobin 1996, 2004, 2005; Ibarretxe-Antuñano 2009; Soroli and Verkerk 2017).

    The reasoning behind this hypothesis is as follows. First, if in a satellite-framed language, the path of vision is typically expressed externally to the verb, the position of the verb itself is not restricted to referring to the mere act of looking per se but can freely express one of several imaginable manners of looking. In a verb-framed language, the verb is expected to express vision + path-of-vision all in one and even if this turned out not to be the case (if Hypothesis 2 were correct), then speakers of this language could be assumed not to have the "habit" of coding manner in the verb the way speakers of satellite-framed languages do. Second, the path argument can be an independent syntactic constituent and therefore express multiple bits of information, combining for instance direction of looking with the goal of looking and/or with a reference object (the "ground"). Again, in a verb-framed language, speakers may not be accustomed to using verb-external paths and certainly not complex ones.

    This third hypothesis leads to two verifiable predictions. One pertains to the availability of manner-expressing verbs; another is about the presence and complexity of path-of-vision arguments.

Prediction 3a: In French manner-of-vision verbs are less available than in Dutch or English.

Prediction 3b: In French path complements are used less often and tend to be less complex than in Dutch or English.

The "availability" of manner-of-vision verbs can more concretely be tested in terms of the diversity of the manner-of-vision verb vocabulary. Another operationalization of availability is frequency of use. Both measures are used here.

One should not simplistically claim of all verb-framed languages, however, that they have small repertoires of manner-of-motion verbs or that they hardly ever allow detailed expressions of path information. For instance, even though Basque is classified as a verb-framed language, its speakers have been shown to express the path component of motion events in great detail, thanks to a wide array of postpositions that can be inflected for several different locational cases (Ibarretxe-Antuñano 2001, 2004, 2015). Furthermore, for French, researchers have reported evidence of a large number of manner verb types and tokens in motion descriptions (cf. among others, Egan and Rawoens 2013; Blomberg 2014; Egan 2015; Hickmann et al. 2017; Morita this volume). However, these important nuances about French (further discussed in Section 6) do not undermine the general consensus that this language is clearly situated more towards the verb-framed pole on the full spectrum of languages compared to English or Dutch.

At least two papers point in the direction of supporting the third (double) hypothesis. First, Slobin (2009) states that "English and Russian seem to have more verbs of manner of looking than Spanish and Turkish, paralleling the differences between satellite- and verb-framed languages with regard to the diversity of manner of physical motion verbs" (Slobin 2009: 208, fn. 8). Second, Cifuentes-Férez (2014) elaborates this statement, observing that "Spanish vision verbs cannot lexicalise the observer's attitude or emotional state, difficulty in the visual act, partial vision, and low attention or low cognitive control" (Cifuentes-Férez 2014: 243). That is, there appear to be no Spanish verbs that are the counterparts of the English verbs *glare*, *scowl*, *peer*, *glimpse*, or *gaze*. As regards the path of vision, Slobin (2009) observes, on the basis of some (non-quantified) corpus evidence and native speaker judgments that "it would appear that Spanish speakers treat visual paths with the same circumspection as physical paths" (Slobin 2009: 209); for Turkish he notes that "as in Spanish, visual paths, like physical paths, are presented with little elaboration" (Slobin 2009: 210). Cifuentes-Férez (2014) likewise notes that orientation paths such as *up* and *down* are lost in translation from English to Spanish and that, unlike in the English source text, "descriptions of visual Paths are scarce and tend to be limited to a Vector that introduces the perceived entity" (Cifuentes-Férez 2014: 244).

3.3   Interim summary

To sum up so far, this chapter aims to answer the following questions:

1.   In Dutch, known for having quite a range of satellite-framed structures for the expression of physical motion, do we find the same variety of patterns for the expression of visual motion?
2.   In French, a largely verb-framed language, are there verbs that express vision and path of vision all in one, or is, as is predicted here, the verb-framed nature of this language lost in terms of visual motion?
3.   Do Dutch and English differ from French in (a) the availability of manner-of-vision verbs, and (b) the frequency of use and complexity of expressions of paths of vision?

In this study, Dutch and English are used as representatives of satellite-framed languages and French as a representative of verb-framed languages, thereby testing hypotheses that are formulated with respect to these broad language families in general. It should of course be kept in mind that any findings do not necessarily apply to satellite-framed and verb-framed languages in general: the findings of this study can only falsify the (absolute) validity of the hypotheses, not verify them. Nevertheless, the results obtained may still be seen as indicative of what a larger-scale typological study could potentially confirm.

4.   Method

One way of looking at how a conceptual domain is expressed in a language is by trawling through a sufficiently large corpus and recording relevant instances along the way. This is what was done for this investigation. More specifically, the present study joins a large and growing body of motion research based on corpora of translated texts (see, among others, Ibarretxe-Antuñano 2003; Baicchi 2005; Slobin 2005; Egan and Rawoens 2013; Ibarretxe-Antuñano and Filipović 2013; Cifuentes-Férez 2014; Cifuentes-Férez and Rojo 2015; Egan 2015; Molés-Cases 2018).

4.1   The corpus

The corpus chosen for this study is a single text, *The Witches*, a popular children's novel written in English by Roald Dahl (1983), as well as its Dutch and French translations. This book was chosen for its vivid and action-packed narrative. Like other books of action and adventure, it contains many physical motion events. The

abundance of such motion events may not be immediately relevant for research into visual motion (except for purposes of comparison, of course) but the selected text also includes a good number of scenes of active visual perception, for example when the protagonist, a young English boy, finds himself in a hiding position from which he peeks at the witches or when a witch glares at a victim. These scenes are of primary interest for the present study. An electronic version of the English original contains 36,606 words.

The Dutch translation, which appeared under the title *De heksen* (1984), was done by Huberte Vriesendorp, who has also translated some 200 children's books and won special acclaim for her fluent and lively translations of many of Roald Dahl's best-selling children's books. The French version also appeared in 1984 under the title *Sacrées Sorcières*, in a translation by Marie-Raymond Farré, who in addition to translating several other bestselling books by Dahl, has also written a few children's books of her own. For this study, I can reasonably assume that both the Dutch and French translators were respected in their professions and that they both translated primarily to suit the needs of their reading audience – young Dutch-speaking and French-speaking readers, respectively – rather than to stay as close as possible to the original work. In other words, my working assumption is that both translations read more or less equally fluently in their target languages and, hence, reflect the linguistic and stylistic conventions of that language.

4.2   Data

Relevant sentences expressing events of active visual perception in the Dutch translation were manually identified and annotated with respect to crucial syntactic properties, e.g. use of a preposition or use of a separable verb prefix.

Only tokens encoding events with an explicit path of vision were considered. For ease of illustration, my examples of the kind of sentences included in the database (cf. (4)) and excluded from it (cf. (5)) are taken from the English original novel (the boldface for verbs and underlining for path complements are mine).[6]

(4) a.   I **gazed** up at my grandmother who sat there like some ancient queen on her throne. (*The Witches*, p. 13)

b.   I **glanced** frantically behind me for a back door to escape through. There wasn't one. (*The Witches*, p. 56)

---

6.   All page numbers correspond to the pagination of an electronic version of Roald Dahl's *The Witches*, which I downloaded at www.tibe.dk/PDF/THEWITCHES.pdf (last accessed 12 June 2013). This link is no longer active, however. Colleagues who want to use the original text in electronic form for research-related purposes can contact me.

c. The Grand High Witch **glared** <u>around the room</u>.   (*The Witches*, p. 67)

d. "Vot's [sic] going on down there?" shouted The Grand High Witch, **glaring down** <u>from the platform</u>.   (*The Witches*, p. 98)

e. I **looked** <u>toward the platform</u>   (*The Witches*, p. 81)

f. I **peeped** <u>round the leg of the chair</u>   (*The Witches*, p. 104)

(5) a. You might possibly **see** her limping very slightly, but only if you were **watching** closely.   (*The Witches*, p. 25)

b. I **watched** them for a while longer through the crack in the screen

(*The Witches*, p. 54)

c. Immediately below my balcony, thousands of feet below, I could **see** a fence of spiked railings.   (*The Witches*, p. 123)

d. "I've got it, Grandmamma! **Look**, here it is!"   (*The Witches*, p. 130)

In all of the examples in (4), a verb of visual perception (*gaze*, *glance*, *glare*, *look*, *peep*) is combined with a particle and/or prepositional phrase expressing aspects of the path traveled along or by the sightline. In all of the examples in (5), such a path is not mentioned explicitly. Even in cases where there is a PP (e.g. *through the crack in the screen* in (5b)), note that these are not complements but adjuncts, as can be ascertained by applying standard tests, such as the *do so* test (Lakoff and Ross 1966; Baker 1978; Radford 1988): *I watched them through the crack in the screen and my friend did so from behind a high-backed seat*). In contrast to the way this was done for Dutch and English, I decided to include path-less visual perception expressions (e.g. *fixer quelqu'un* 'stare at someone') in the set of French translations, because otherwise there would have been hardly any data left in that set. Indeed, most translations of visual perception expressions in the French text do not involve any path argument, a point taken up in Section 6.

To check whether all instances of visual motion in the original were translated, the manual search in the Dutch translation was complemented with a set of semi-automatic searches performed in the electronic version of the original text. Searches were run for instances of the words *look*, *gaze*, *glance*, *glare*, *glimpse*, *stare*, *peek*, *peep*, *peer*, *eye*, *sight*, *view*, and *watch*. All English original sentences or sentence fragments with visual motion events (103 in total) are listed in the Appendix. The translations of these English expressions of visual motion events into French were subsequently identified in the French version of the book.

5.   Results

5.1   Visual motion in Dutch: Parallels with physical motion

The Dutch translation of Roald Dahl's *The Witches* contains 112 instances that clearly meet the criterion of visual motion. These only include expressions of visual perception that make explicit (aspects of) the path of vision (cf. Section 4.2).[7] Over a hundred visual motion expressions is, fortunately, a significant number of cases, especially considering that the corpus consists of a single moderate-length book: on average, more than one visual motion expression occurred per pair of pages (even with pictures included). The larger number of visual motion expressions in the Dutch translation than in the English original is largely attributable to the fact that English *watch*, a transitive verb, is typically translated as *kijken naar*, a verb with a path-expressing PP (lit. 'look to'). The former was not counted as a motion expression; the latter was (cf. Section 4.2).

Returning to Hypothesis 1, if these 112 instances are representative of the kinds of patterns available in Dutch for the expression of physical motion, they should include the kinds of structures listed in Table 1. As noted in the introduction, although the West-Germanic languages Dutch and English are closely related to each other, there are some differences in the way these languages express physical motion. Most importantly, Dutch has a larger array of structural patterns to express physical motion – it has verbs with prepositional phrases, verbs with separable prefixes, verbs with inseparable prefixes, verbs with (what seem to be) postpositional phrases, and verbs with circumpositional phrases, among other possibilities. As Table 2 shows, each of the available structures for the expression of physical motion has also been found to be available for the expression of visual motion.

Table 2. Patterns of visual motion in the Dutch translation of Roald Dahl's *The Witches*; word-by-word glosses of the translation are given insofar as the word order is different from the English original

Structure	Example
verb with <u>PP</u>	Alle heksen in de zaal **staarden** <u>naar Bruno</u>. (*De heksen*, p. 91) all witches in the room stared at Bruno 'Every witch in the audience was staring at Bruno.' (*The Witches*, p. 91)

(*continued*)

---

7.   As explained earlier, the 'path of vision' is the route traveled by the gaze as it emanates from the perceiver to the perceived object (axial motion along the line of sight), and/or traveled by the gaze as a whole from one perceived object to another (lateral motion of the line of sight).

Table 2. (*continued*)

Structure	Example
verb with <u>separable prefix</u>	Bruno **keek** <u>op</u>. (*De heksen*, p. 141) 'Bruno looked up.' (*The Witches*, p. 142)
verb with <u>(inseparable) prefix</u>	Ik kon de hele lengte en breedte van de zaal <u>over**zien**</u> (*De heksen*, p. 54) I could the whole length and width of the room over-see 'I could see the entire length and width of the Ballroom' (*The Witches*, p. 53)
verb with <u>locative adverb (phrase)</u>	toen ik <u>een beetje hoger</u> **keek** … (*De heksen*, p. 147) when I a bit higher looked … 'when I glanced up a bit higher …' (*The Witches*, p. 147)
verb with <u>'postpositional' phrase</u>	Ze **keek** <u>de lange, lege hotelgang af</u>. (*De heksen*, p. 122) she looked the long, empty hotel-corridor off. 'She looked up and the down the long empty hotel corridor' (*The Witches*, p. 122)
verb with <u>pronominal adverb</u>	**Kijk** <u>er</u> maar eens <u>naar</u>. (*De heksen*, p. 108) look there but once toward 'Take a look at them.' (*The Witches*, p. 108)
verb with <u>circumpositional phrase</u>	Ik **keek** <u>om de stoelpoot heen</u> (*De heksen*, p. 106) I looked round the chair-leg away 'I peeped round the leg of the chair' (*The Witches*, p. 104)
verb with <u>two or more of the above-mentioned kinds of path complements</u>	Meneer Jenkins **keek** haar <u>over zijn krant heen</u> <u>aan</u> (*De heksen*, p. 134) (visual perception verb with circumpositional phrase and separable prefix) Mister Jenkins looked her over his newspaper away on 'Mr. Jenkins looked at her over the top of his newspaper' (*The Witches*, p. 133)

As Table 2 illustrates, there is no shortage of visual motion patterns; moreover, there is a nice syntactic parallelism between the structures available for actual motion (cf. Table 1) and those available for visual motion.

As with actual motion, not all patterns are used equally frequently. Figure 1 provides a breakdown of the patterns used for visual motion in the corpus; for examples of the categories, refer to Table 2, where the same categories appear in the same order.

The distribution in Figure 1 resembles that of structural types used for the expression of actual motion, where prepositional phrases and separable prefixes also constitute the most frequently used options. As a basis of comparison with the 112 instances of visual motion expressions, I used the first 112 physical motion
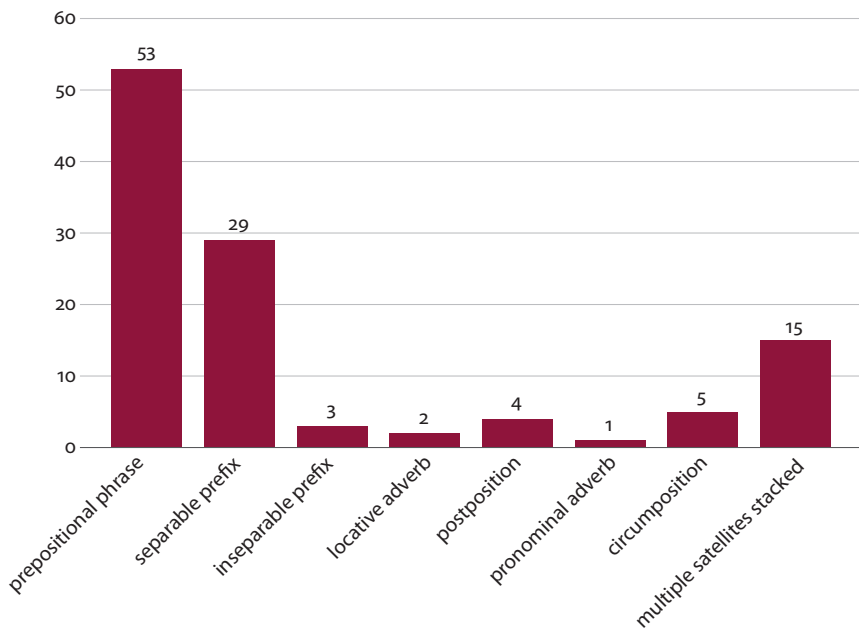
Figure 1. Distribution of structural types used for the expression of visual path in the Dutch translation of Roald Dahl's *The Witches*, with absolute numbers of occurrences (number of tokens) listed for each type

expressions with an explicit verb-external path in the Dutch translation. In this sample of actual motion expressions, single PPs occur 47 times, separable prefixes occur 22 times, single pronominal adverbs 8 times, single locative adverbs 7 times, single circumpositions 7 times, single postpositions 6 times, and stacked combinations of these 15 times. This distribution is represented in Figure 2.

The two bar charts (Figures 1 and 2) look remarkably similar. It will come as no surprise, therefore, that the distributions of grammatical structures used for path components do not differ significantly across "kinds" of motion, based on a Chi-square test whereby the 5 smallest categories are grouped together (with the independent variables of "visual path" versus "physical path", and the dependent variables of "prepositional phrase", "separable prefix", "multiple satellites stacked", and "other"; $\chi^2 = 5.25$, d.f. = 3, $p = 0.154$). Prediction 1 (formulated in Section 3.2) is thus borne out: all of the constructions available in Dutch to express physical motion (verbs with PPs, verbs with separable prefixes, etc.) are also employed in Dutch to express visual motion and, moreover, are used with roughly similar distributions. Of course, the absence of statistical significance, generally speaking, is not evidence of sameness. Yet, the main observation here is that constructions used in one domain
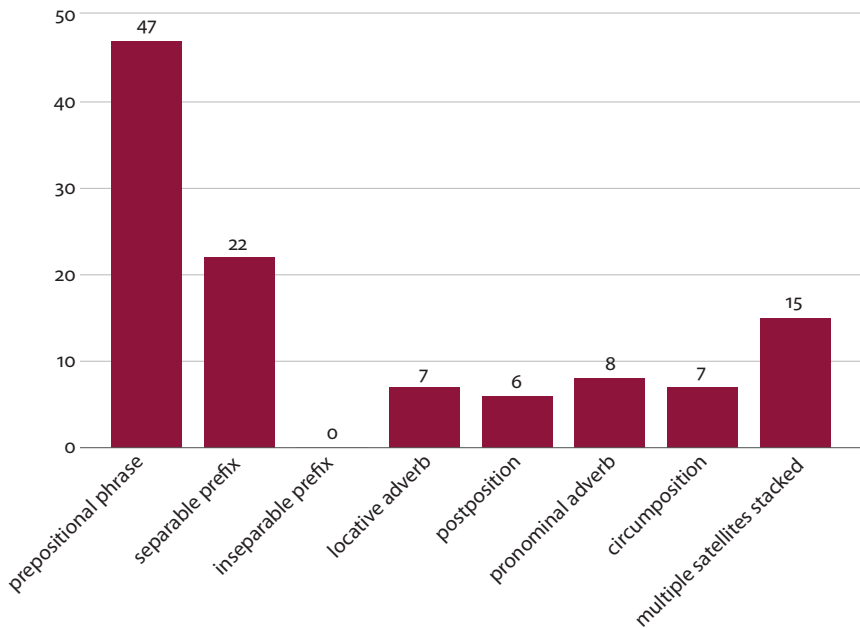
Figure 2. Distribution of structural types used for the expression of visual path in the 112 first occurrences of expressions of physical motion events in the Dutch translation of Roald Dahl's *The Witches*, with absolute numbers of occurrences (number of tokens) listed for each type

are possible in the other domain as well and that the two most frequently used expression types in one domain are also the two most frequently used ones in the other. This lends *some* support to the hypothesis that visual motion is expressed similarly to physical motion in languages, and thus to the view that, at an underlying level of conception, visual motion is understood as involving actual motion.

5.2   Path of vision in French: Still some verb-framing devices

Prediction 2, however, was that French, which for physical motion uses verbs like *entrer* ('go/come in'), *sortir* ('go out'), *monter* ('go up'), and *descendre* ('go down'), would lose its verb-framed nature in the domain of visual motion, manifested in an absence of verbs of looking that contain information about the path of vision (see Section 3.2). It is true that the French translation of *The Witches* does not contain any verbs that conflate vision and path of vision. One may even wonder whether such a verb exists at all in French. One candidate that comes to mind is *inspecter* 'inspect', which morphologically combines the path-expressing prefix

in- and a root that is etymologically linked to the Latin verb *spicere* meaning 'look' (and which we also find in words such as *spectacle*, *spectator*, and *perspective*, for instance). However, *inspecter*, with its extended meaning of 'investigate' or 'check', is not clearly a visual verb.

The French verb *regarder* 'look at' is an unmarked verb of visual perception. Insofar as *regarder* takes a direct and not an oblique (prepositional) object, it could be argued that it conflates vision and path. *Regarder* NP could then be said to be an even more obviously verb-framed coding strategy than, say, *entrer dans* NP in the domain of physical motion, as this latter verb conflates motion and path but is still (redundantly) combined with a path-expressing PP. The problem with such a view, though, would be that we would then also have to consider the English verb *watch*, used transitively, as a verb-framed expression, when in fact *watch* was excluded from the set of English motion expressions (cf. Example (5b)). Rather than revising the position that *watch* is not a path-expressing verb, it is perhaps most sensible to also deny that *regarder* includes path information itself. After all, this verb can be combined with path complements expressing one of several directions (e.g. *regarder ({quelqu'un / quelque chose}) par la fenêtre* 'look through the window (at {someone / something})', *regarder {autour / derrière} soi* 'look {around / behind} oneself', *regarder à {gauche / droite}* 'look {left / right}', *regarder dans la boîte* 'look into the box', and so on). This means that *regarder* NP in French (and *watch* NP in English) may not actually conflate the semantic notions of vision and path of vision, unless one is prepared to treat the straight, unimpeded trajectory of the gaze from the observer to the observed to be a true path, even if it is devoid of any information concerning direction or ground; but treating *regarder* NP as path-encoding would then be as trivial as saying that, for example, *toucher* NP 'touch NP' incorporates path information.

Does this confirm, then, the prediction that French is no longer a verb-framed language when it comes to expressing visual motion? This conclusion seems unwarranted, as French uses some more elaborate expressions of visual perception in which the observer's eyes or gaze has the semantic role of theme (i.e. moving object). In the French translation of *The Witches* we thus find 4 instances of the expression *lever les yeux* 'raise one's eyes', where the English original uses *look up* (and in one instance *look at* NP), a clear case of path-encoding in the verb for French as opposed to path-encoding in a satellite for English. This French expression can still be combined with a verb-external path complement, as shown in (6):

(6) Je   [**lev-ai**   les   **yeux**]$_{Path+Vision}$ [vers   son
     1SG.NOM   raise-1SG.AOR   the.PL   eye.PL   towards   3SG.M.POSS

     visage]$_{Path}$·   (*Sacrées Sorcières*, p. 177)
     face

'I was **looking** up at her face.'   (*The Witches*, p. 176)

Another instance in which French adopts a verb-framing strategy is when the English original particle verb *look away* is translated as *détacher le regard* (lit. 'detach the gaze'; 1 instance): here, too, the French verb could be said to conflate the notions of path (namely movement away from something) and, when considered together with its direct object, vision.

These few instances of verb framing should also probably be viewed as part of a more general translation strategy adopted in the French version to render events of visual perception by means of an expression in which the observer's eyes, gaze, or glance is realized as a direct object argument. Unlike in the case of *lever les yeux* and *détacher le regard*, which inherently express upward movement and movement away from the source location, respectively, such cases do not necessarily by themselves convey path information: *jeter un coup d'œil* (10 instances) literally means 'throw a stroke of (the) eye' (i.e. throw a glance); *jeter un regard* (1 instance) likewise means 'throw a glance'; and *fixer les yeux* (1 instance) literally means 'fixate/fasten the eyes' (i.e. stare). The use of this family of visual expressions, with a direct object referring to the observer's eyes or glance, may well be rather typical of French and Spanish (Slobin 2009: 214). In any case, the English original text has only one such instance (*Without taking her eyes from my face …*, p. 38). The Dutch text, too, has fewer such instances (only 4 tokens).

What often occurs in the English source text are cases where the subject argument refers to the perceiver's eyes or face; see Examples (3), (6), (28), (29), (48), (56), (72), and (75) in the Appendix. But only three of these are examples in which *eyes* or *face* is arguably used as a metonym for the gaze (rather than for the experiencer, as in *Her eyes [= She] stared at me*). One of these cases (*her eyes never left me*) is the only instance of purely verb-framed visual motion encoding in the English source text. This is translated into French as *elle ne me quittait pas du regard* '(lit.) she not me left (not) from-the gaze'.[8] The source text example *Suddenly, her eye fell upon Bruno* would in the literature typically be considered as (purely) satellite-framed, but because the verb, taken literally, could be argued to contain path information, we can treat this token as both verb-framed and satellite-framed, just like its French translation (*Soudain, ses yeux tombèrent sur*

---

8.   Note, however, that this French translation does not involve (caused) motion of the gaze but (caused) motion of another theme away from the gaze. The gaze is then a reference point (a "landmark" in Cognitive Grammar; cf. Langacker 1987). This requires a conceptualization of the gaze as something fully attached to the experiencer, so that the experiencer-*cum*-gaze can either stay close to or leave (*quitter*) an experienced object. For the French dataset, I accepted deviations from the definitional criterion of visual motion events anyway (cf. Section 4.2), so this example was also included.

Bruno). With the six other cases already mentioned (four instances of *lever* + 'gaze', one of *détacher* + 'gaze' and one of *quitter* + 'from-gaze'), this translation is one of the seven instances of verb-framed visual motion encoding in the French version.[9]

It seems reasonable to conclude, then, that verb framing is a strategy in French available for the domain of visual motion, in light of transitive expressions such as *lever les yeux* 'raise one's eyes', belonging to a larger family of expressions that make the observer's eyes or gaze explicit, typically as a direct object NP. Not all of these expressions are verb-framed, though. In Section 6, I discuss in more detail to what extent French preserves its verb-framed nature in the domain of visual motion.

5.3   Manner-of-vision verbs and verb-external paths of vision: Partially confirmed typology-based predictions

5.3.1   *Availability of manner-of-vision verbs*
Given that English and Dutch both belong to the family of satellite-framed languages, fewer differences might be expected between these two languages than between English and French with respect to their means of encoding visual motion. In order to facilitate the comparison between English and Dutch on the one hand and English and French on the other, I took the English source text as a pivot. That is, I looked only at the 103 visual motion expressions in the original English text and their translations into Dutch and French. Not all of the source expressions were translated with a visual motion expression, as in the case of *Let me look at it*, which is rendered in Dutch as *Laat eens zien* (lit. 'Let once see'). In the French translation in particular, many visual motion expressions were left completely untranslated, a point to which I will return in Section 6.

In the English original, a wide variety of manner-of-vision verbs are used: *flash, gaze, glance, glare, peep, peer*, etc. More than half of the visual perception verbs are manner-of-vision verbs (58 instances), in contrast to manner-neutral verbs such as *look* (45 instances).

Much of this variety is preserved in the Dutch translation, although the manner-neutral perception verb *kijken* 'look' accounts for more than half of the 103 translations (61 instances). There is only one other expression counted here as manner-neutral, namely *zijn ogen afwenden* 'turn one's eyes away' (1 instance). Apart from these two verbal types, we find such manner-specific Dutch translations

---

9.   As for the Dutch translation of this example, *Plotseling kreeg ze Bruno in het oog* (lit. 'suddenly, she got Bruno in the eye'), its construal of the event deviates from the folk theory of the eye sending out beams and is more in conformity with the actual physics of vision, where light reflected off objects enters the eye. This example was not treated as a visual motion event, as it does not comply with the definition given in Section 2.

as *staren* 'stare' (19 instances), *turen* 'peer' (2 instances), *blikken* 'glare' (1 instance), *dwalen* 'wander' (with *ogen* 'eyes' as subject; 1 instance), and *flitsen* 'flash' (with *ogen* 'eyes' as subject; 1 instance). Several longer expressions also occur: *zijn ogen van iets af·houden* lit. 'one's eyes of something off-keep' (i.e. keep one's eyes off of something, which is normally, as here, used with *niet kunnen* 'not be able to'; 1 instance), *zijn ogen vestigen* 'fixate one's eyes' (1 instance), and *een blik werpen* 'throw a glance' (1 instance), all of which are considered to be manner-specific here, if only because they foreground, for instance, the deliberateness of the visual perception act.

In French, the manner-neutral verb *regarder* 'look' is used in (only) 37 instances, while a reasonably large variety of manner-specific verbs and expressions occur. The translation contains *fixer* (NP) 'stare (at NP)' (9 instances) and *fixer les yeux* lit. 'fixate one's eyes' (i.e. stare; 1 instance), *dévisager* 'stare' (1 instance), and *observer* 'observe' (1 instance). Among the longer expressions mentioned in Section 5.2, some are also (somewhat) manner-specific: *jeter un coup d'œil* lit. 'throw a stroke of (the) eye' (i.e. throw a glance; 10 instances) and *jeter un regard* 'throw a glance' (1 instance). Finally, the expression *balayer* (NP) *de son regard* lit. 'sweep (NP) from one's glance' (i.e. look (slowly) around NP) also occurs (2 instances).

Table 3 gives an overview of the lexical inventories in the three versions of the book. Other researchers may disagree as to whether a particular verbal expression (e.g. *travel*) in this table expresses manner of vision or not, but the overall picture should not change drastically when one or two expressions get assigned to a different set. The table also shows the lexico-grammatical pattern(s) in which each verb appears in the text.[10]

Although the differences between texts are not enormous, it can be observed from Table 3 that the French text has the lowest number of distinct types of verb expressions that contain manner-of-vision information, while the number of French manner-neutral types falls between that of English and Dutch. In fact, *observer* is poor in manner information (but has been included in the manner-specific set because it typically conveys the idea of longer duration and greater attentiveness). These differences tentatively confirm Prediction 3a, which is that fewer manner-of-vision verbs are available in French than in Dutch or English. Note that availability is measured here in terms of distinct manner-of-vision verb types used in the texts, as a proxy of the inventory size of manner-of-vision verb expressions in the respective languages as a whole. (The implicit assumption here is that the text of *The Witches* is a representative sample of the language as a whole, thus making the findings generalizable.)

In terms of frequency of use, Figure 3 shows the token frequencies of manner-neutral and manner-specific visual perception expressions in the English

---

10. Prt = particle; sep. pref. = separable prefix; insep. pref. = inseparable prefix; postp. = postposition; pron. adv. = pronominal adverb; subj = head of subject NP; direct O = head of object NP.

Table 3. Distinct manner-neutral and manner-specific verbal expression types for visual motion in Roald Dahl's *The Witches* and in the Dutch and French translations. Numbers between brackets after each type indicate token frequencies

English original	Dutch version	French version
Manner-neutral:	Manner-neutral:	Manner-neutral:
have a look + <u>PP</u> (1)	{<u>PP</u> / <u>sep. pref.</u> / <u>NP postp.</u> / … }	*détacher le regard* + <u>PP</u> (1)
look + {<u>Prt</u> / <u>PP</u> / <u>Prt PP</u> /	+ *kijken* (61)	*lever les yeux* (+ <u>PP</u>) (4)
<u>PP PP</u>} (38)	(*ogen*)$_{direct O}$ + <u>PP</u> + sep. pref. +	*quitter* NP [*du regard*]$_{PP}$ (1)
(*eyes*)$_{subj}$ + <u>*leave*</u> + NP (1)	*wenden* (1)	*regarder* + {NP /
see + {<u>Prt</u> / <u>PP</u>} (2)		<u>PP (PP …)</u>} (37)
take a look + <u>PP</u> (2)		*voir* + {NP / <u>PP</u>} (6)
take one's eyes + <u>PP</u> (1)		
Total types: 6	Total types: 2	Total types: 5
Manner-specific:	Manner-specific:	Manner-specific:
(*eyes*)$_{subj}$ *fall* + <u>PP</u> (1)	<u>PP</u> + *blikken* (1)	*balayer* NP + [{*de ses yeux* /
(*eyes*)$_{subj}$ *flash* + <u>PP</u> (1)	(*ogen*)$_{subj}$ + <u>PP</u> + *dwalen* (1)	*de son regard*}]$_{PP}$ (2)
gaze + <u>(Prt) + PP</u> (3)	(*ogen*)$_{subj}$ + <u>sep. pref.</u> + *flitsen* (1)	*dévisager* NP (1)
glance + <u>(Prt) + PP/AdvP</u> (10)	(*ogen*)$_{direct O}$ + <u>pron. adv. + sep.</u>	*fixer* {NP ({[*de ses yeux*]$_{PP}$ /
glare + <u>(Prt) + PP</u> (4)	<u>pref.</u> + *houden* (1)	[*dans les yeux*]$_{PP}$}) / *ses*
peep + {<u>Prt</u> / <u>PP</u>} (9)	{<u>PP</u> / <u>sep. pref.</u> / <u>NP + sep. pref.</u>}	*yeux* + <u>PP</u>} (10)
peer + <u>(Prt) + PP</u> (6)	*staren* (19)	*jeter* {*un coup d'œil* / *un*
scowl + <u>PP</u> (1)	<u>PP</u> + *turen* (2)	*regard*} + <u>PP</u> (11)
stare + <u>Prt + PP</u> (22)	(*ogen*)$_{direct O}$ + <u>PP</u> + *vestigen* (1)	*observer* NP (1)
(*eyes*)$_{subj}$ *travel* + <u>PP</u> (1)	(*blik*)$_{direct O}$ + <u>PP</u> + *werpen* (1)	(*yeux*)$_{subj}$ *tomber* + <u>PP</u> (1)
Total types: 10	Total types: 8	Total types: 6

source text, together with the token frequencies of both kinds of expressions in the Dutch and French translations.

As illustrated in Figure 3, the Dutch text contains a much lower proportion of manner-of-vision verb tokens than the English text, which is all the more surprising given that Dutch is a prototypical satellite-framed language, while English is not (Pavlenko and Volynsky 2015). When we apply a Chi-square test, we can see that this difference is extremely significant (χ^2 = 12.024, d.f. = 1, p = 0.0005). The difference between the English and the French versions is also very significant (χ^2 = 7.313, d.f. = 1, p = 0.0068). However, there is no statistically significant difference between the Dutch and the French texts (χ^2 = 0.179, d.f. = 1, p = 0.6723).

The data show that the available manner-specific expressions of looking in French are regularly used (at least by the translator). This finding corresponds to what Egan (2015: 26) recently noted for French physical motion, namely that "there are quite a few tokens in which MANNER is coded verbally …, perhaps more than one would expect in the case of what is commonly taken to be a predominantly verb-framed
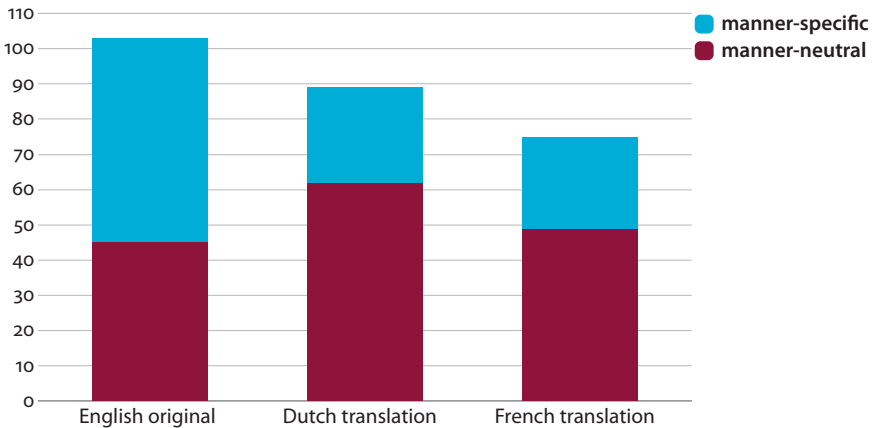
Figure 3. Distribution of manner-neutral and manner-specific visual motion expressions (counted as tokens) in Roald Dahl's *The Witches* and its Dutch and French translations

language." The prediction that French would use fewer manner-of-vision verbal expressions than English and Dutch (Prediction 3a; see Section 3.2) is thus only partially confirmed: it is true when French is compared with English, but not when it is compared with Dutch. These manner-of-vision verbal expressions may be used less extensively in the French translation than in the English original, in part, because of a general translation effect, such as implicitation or simplification (for discussions of such presumed "translation universals", see e.g. Mauranen and Kujamäki 2004), since the Dutch translation, too, is less rich in manner-of-vision expressions.

Figure 3 shows that, compared to the source text, not only is manner information lost to a large extent in the Dutch and French translations, but many instances of visual motion expressions are also lost altogether. This is more blatantly the case for the French translation than for the Dutch. The difference in such translation losses between the Dutch and the French versions is actually even starker than is suggested in Figure 3. This is because for the Dutch set of visual motion expressions, as explained in Section 4.2, I excluded cases where no path argument was present, such as *iets bekijken* 'look at something', where the perceived object is not the object of a preposition but the direct object of a verb with the so-called 'applicative' prefix *be-* (cf. Laffut 1998).[11] (I relaxed this criterion for French, so as to allow a sufficient number of visual perception expressions in the dataset.)

---

11.   The applicative prefix *be-* turns an intransitive verb (or even a noun base) into a transitive verb. A peripheral object is thereby 'promoted' to direct object (sometimes called the applied object). For instance, *land bebossen* means something like 'provide wood (= the noun *bos*) to (the)

5.3.2   *Frequency and complexity of paths of vision*

The 103 English visual motion expressions in the source sample all have an explicit path. For 101 of them, this path is realized as a verb-external complement. One example in the source text does not have a path complement: … *her eyes never left me* (p. 113). The reason this token was nonetheless included is that *leave* is inherently directional, i.e., the path information is incorporated in the verb (cf. Section 5.2). One other example has path information both in a complement and in the verb: *Suddenly, her eye fell upon Bruno* (p. 131), as explained in Section 5.2.

In the Dutch version, 88 of these 103 source instances are translated with a verbal expression that has a path complement. In the French version, by contrast, only 30 of the source items have a path complement in translation. Typically, the French expression of visual perception is a verb used transitively, such as *regarder* 'look' or *fixer* 'glare, stare'. In (7) we have an example of a source sentence containing a simple path of vision complement, along with its translations (and simplified glosses) in the Dutch and French versions, respectively.

(7)   a.   Every witch in the audience was **staring** <u>at Bruno</u>.   (*The Witches*, p. 91)
      b.   Alle heksen in de zaal **staarden** <u>naar Bruno</u>.   (*De heksen*, p. 91)
           'lit. all witches in the room stared to Bruno'
      c.   Toutes les sorcières **regardaient** Bruno.   (*Sacrées Sorcières*, p. 88)
           'lit. all the witches looked Bruno'

In (7c), there arguably is no explicit path. That is, the perceived entity (Bruno) is mentioned, but there is no preposition that lexicalizes the trajectory of the perceiver's gaze as in (7a) and (7b) and, as was discussed in Section 5.2, claiming that *regarder* itself includes path information would reduce path information to something trivial (just as trivial as if one were to say that the verb *go* incorporates the notion of path).

In terms of the complexity of visual paths, English and Dutch differ starkly from French. In English and Dutch, path expressions can easily be (and often are) complex, involving, for instance, multiple PPs or combinations of a particle and a PP. The source text contains 20 such cases, and the Dutch translation 13 (not including paths with circumpositions, which were treated as simple despite the use of two spatial elements, e.g. *Ik keek <u>om de stoelpoot <u>heen</u>* 'I peeped around the leg of the chair', and not even counting a few extra instances which didn't have a visual motion expression in the source text, e.g. *be fascinated by X → zijn ogen niet kunnen af·houden <u>van X</u>*, 'not be able to keep one's eyes off X'). In the French translation,

---

land', i.e. 'afforest'. The use of this applicative prefix in the domain of visual motion in Dutch is a nice parallel of its use in the domain of physical motion. Compare *een berg *(be)kijken* 'watch a mountain' and *een berg *(be)klimmen* 'climb a mountain'.

however, complex paths are a relative rarity, given that even simple paths do not occur very frequently. This finding is in line with what Matsumoto (2017) notes for Japanese: verbs of vision in this verb-framed language also occur much less often with path phrases than English. To illustrate the typical way in which English and Dutch differ from French, (8) contains a sentence with a complex path from the source text that retained a complex path in the Dutch translation but not in the French translation, where there is not even a simple path:

(8) a. English original:
         … **staring** <u>down</u> <u>at me</u> white-faced and shaking all over.
                                                                    (*The Witches*, p. 112)
     b. Dutch translation:
         … terwijl ze spierwit en lijkbleek <u>op me</u> <u>neer</u>**keek**.   (*De heksen*, p. 113)
         '… while she muscle-white and corpse-pale on me down-looked'
     c. French translation :
         … tout en **regardant** le souriceau que j'étais devenu.
                                                                    (*Sacrées Sorcières*, p. 110)
         '… all in looking the little-mouse that I was become'

There are only six cases where the French translation has a complex path, but five of them concern an expression where one of the paths is already expressed by the verb, viz. *détacher* 'detach', *lever* 'raise' (for 2 of its 4 tokens), *quitter* 'leave', and *tomber* 'fall'; each of these then takes just a single PP. Here is one of these five instances, which we encountered before:

(9) Je   [**lev-ai**   les   yeux]_{Path+Vision} [<u>vers</u>   <u>son</u>
     1SG.NOM   raise-1SG.AOR   the.PL   eye.PL   towards 3SG.M.POSS
     <u>visage</u>]_{Path}.   (*Sacrées Sorcières*, p. 177)
     face
     'I was **looking** <u>up</u> <u>at her face</u>.'   (*The Witches*, p. 176)

There is only one instance in the French translation where a visual perception verb is followed by multiple PPs; this is shown in (10):

(10) Elle   **regard-a**   <u>autour</u> <u>d'elle</u>,   <u>à</u> <u>droite</u>, <u>à</u> <u>gauche</u>, <u>dans</u> <u>le</u>
      3SG.F   look-3SG.AOR   round of-3SG.F   to right   to left   in   the.SG.M
      <u>long</u> <u>couloir</u> <u>vide</u>.   (*Sacrées Sorcières*, p. 121)
      long corridor empty
      'She looked <u>up and down the long empty hotel corridor</u>.' (*The Witches*, p. 122)

This is the only case in which French contains a path *complement* that is complex. Figure 4 graphically represents the differences between the original text in English and its Dutch and French translations in how paths are expressed (if at all).

Figure 4. Distribution of simple and complex paths in visual motion expressions in Roald Dahl's *The Witches* and its Dutch and French translations

As seen in Figure 4, the three texts have roughly the same ratio of complex-to-simple visual paths; at any rate, they do not significantly differ from one another (as can be shown by applying a Chi-square test to each of the three language pairs: en/du, en/fr, and du/fr). However, Figure 4 makes it quite clear that explicit visual paths are seriously underrepresented in the French translation. This partially confirms Prediction 3b, that French would differ from both English and Dutch in terms of how often it makes explicit a visual path and how complex that path expression is (see Section 3.2). While the relative frequency of complex paths is not clearly different across the three texts, the French text has fewer explicit mentions of a visual path by far compared to the other two texts.

6.   Discussion

It has been shown here that Dutch, a language with a particularly wide range of motion constructions, uses its constructional inventory for both physical motion and visual motion. The data showed, more specifically, that Dutch constructions with a prepositional phrase (e.g. *naar mijn grootmoeder*, 'at/to my grandmother'), a separable prefix (e.g. *op-*, 'up'), an inseparable prefix (e.g. *over-*, 'over-'), an adverbial phrase (e.g. *een beetje hoger*, 'a bit higher'), a so-called postpositional phrase (e.g. *het podium rond*, 'around the platform'), a pronominal adverb (e.g. *ernaar*, 'at it'), a circumpositional phrase (e.g. *over zijn krant heen*, 'over the top of his newspaper'), and several combinations of these can all be employed not only for encoding physical motion but also for encoding visual motion. This finding supports (although it cannot prove) the general hypothesis that the patterns used by speakers of a

language to express physical motion are also available to them to express visual motion. This hypothesis is in line with the view that vision is either a real kind of motion – the observer's gaze, though a mentally construed object, literally moves from one location to another – or a sort of fictive motion – the gaze moves from the perceiver's eyes towards the perceived object.

The hypothesis about speakers exploiting a language's constructional inventory for expressing physical motion to similarly express visual motion would imply that the well-known Talmyan typological differences in lexicalization preferences between languages are visible in the domain of visual motion. It would also mean that much-discussed differences in attention paid to manner and path components of motion events also play out in the domain of vision. As Slobin (2009: 201) writes, "if these differences carry over into the domain of visual motion – that is, a domain of fictive motion – there might be similar differences between verb- and satellite-framed languages in preferred means of encoding visual paths, and consequently, in conceptual representations across languages." However, Slobin (2009), following an observation made by Matsumoto (2001), makes room for the possibility that these crosslinguistic differences are diluted in the domain of visual motion:

> On the other hand, verb-framed languages do not provide specialized verbs for visual paths, on a par with 'enter', 'ascend' and the like; rather, both types of languages rely on all-purpose perception verbs such as 'look', combined with various sorts of adjuncts (adpositional phrases and directional adverbs in both language types, plus satellites in satellite-framed languages). It may be, therefore, that the marked differences between the two language types in the domain of physical motion fall away in the domain of visual motion.   (Slobin 2009: 201)

This possibility was tested here for French, a verb-framed language. The findings suggest that verb-framed languages do in fact differ from satellite-framed languages as regards the expression of visual motion events. While it is true that there are no single verbs in French that mean 'look+into', 'look+up', etc., it could be observed that French does not systematically opt for satellite-framing alternatives. Instead, it frequently uses an expression which lexicalizes the observer's eyes or gaze as the moving object (cf. also Hoelbeek 2017: 63, for some discussion of this encoding option): *détacher le regard* lit. 'detach the gaze', *fixer les yeux*, 'fixate the eyes', *jeter un coup d'œil*, lit. 'throw a stroke of (the) eye', *jeter un regard* 'throw a glance', or *lever les yeux* 'raise the eyes'. As pointed out in Section 5.2, this pattern as such is not necessarily verb-framed, as not all the verbs mentioned here are path verbs (cf. also Matsumoto et al. 2017); yet, one can see how the few actual verb-framed verbs in this pattern (*détacher* and *lever*), which conform to the typological nature of French, may help to give the pattern as a whole cognitive prominence. Taken together, transitive instances of this pattern account for 17 occurrences in the French

translation, while this expressive device occurs only once in the English source text (*without taking her eyes from my face*). In the Dutch translation, as well, there are only a handful of such cases (e.g. *ik kon mijn ogen niet van de krabbende dames af·houden* lit. 'I could my eyes not from the scratching ladies off-keep', *zonder haar ogen van mijn gezicht af te wenden* lit. 'without her eyes from my face off to turn').

This structure may hint at a deeper conceptualization of visual motion: although typical verbs such as *look* are intransitive, they involve an implicit theme, namely the perceiver's gaze (or, metonymically, the perceiver's eyes – see further in this section) being sent towards the perceived object (cf., among others, Gisborne 2010). In expressions such as *He threw a look at me* or *His eyes wandered through the room*, this otherwise hidden theme surfaces, either as a direct object in what is a caused-motion construction or as a subject in a self-agentive motion construction. It is because of this underlying conceptualization that we can explain why English uses the preposition *at* with *look* while it cannot use this preposition with *go*. Both are intransitive verbs on the surface, but the former (*look*) has a theme argument in its underlying conceptual structure, as it is not the looker who moves but the looker's (usually implicit) gaze. Just as the preposition *at* is used with, for instance, causative ballistic motion verbs such as *hurl*, *throw*, or *toss*, it is also used with *look*, which in some sense is also a ballistic motion verb. As the *at*-phrase represents some sort of target or intended goal to be reached by the gaze, it expresses (the endpoint of) a path.

Of course, the perceiver's eyes do not leave their sockets, so when someone is said to *let his eyes travel around the audience* or is said not to be able to *take his eyes from something*, the perceiver's eyes should be understood as a metonym for the perceiver's gaze, which extends from the eyes. The transitive verb *eyeball*, too, makes use of this eyes-for-gaze metonymy. As stated in Section 2, the perceiver's gaze itself is an invisible, mental construct. Yet, in a story about a witch whose powerful stare has magical, terrifying powers, we find that the gaze can become very real and tangible:

(11)   A moment later, a stream of sparks that looked like tiny white-hot metal-filings came shooting out of The Grand High Witch's eyes and flew straight towards the one who had dared to speak.   (*The Witches*, p. 66)

I believe that some of this imagery – a gaze being projected from the eyes – lingers in the background whenever we encode events of active visual perception. French may use this type of conceptualization more often than English and Dutch do. This is because French, as a verb-framed language, has developed a natural tendency to express the path in the verb. I hypothesize that it may be too 'costly' for the lexicon of a verb-framed language to create single verbs that mean 'look in(to)', 'look up', 'look through', and so on. It is much more efficient to divide the expressive labour between the verb and its direct object (or, less typically, the verb and its subject, as

in *ses yeux tombèrent sur Bruno* 'her eyes fell upon Bruno'). The verb then expresses (caused) motion and sometimes also path, while the direct object (or, with intransitive verbs, the subject) makes it clear that we are dealing with visual perception.

A more comprehensive set of (transitive) expressions that fit this pattern (found via Google Books Ngram viewer) is given in (12); verbs that express path are underlined, and (only) expressions with an underlined verb can be considered to exhibit a true verb-framing strategy:

(12) a. <u>(a)baisser</u> {**le regard/les yeux**} lit. 'lower one's gaze/eyes'
b. <u>détacher</u> {**le regard/les yeux**} lit. 'detach one's gaze/eyes'
c. <u>détourner</u> {**le regard/les yeux**} lit. 'divert one's gaze/eyes'
d. **diriger** {**le regard/les yeux**} lit. 'direct one's gaze/eyes'
e. **fixer** {**le regard/les yeux**} lit. 'fixate one's gaze/eyes'
f. **jeter** {**le regard/les yeux/un coup d'œil**} lit. 'throw {one's gaze/one's eyes/a stroke of (the) eye}'
g. <u>lever</u> {**le regard/les yeux**} lit. 'raise one's gaze/eyes'
h. <u>plonger</u> {**le regard/les yeux**} lit. 'plunge one's gaze/eyes'
i. **porter** {**le regard/les yeux**} lit. 'carry one's gaze/eyes'
j. **promener** {**le regard/les yeux**} lit. 'walk one's gaze/eyes'
k. **tourner** {**le regard/les yeux**} lit. 'turn one's gaze/eyes'[12]

Rather than only *le regard* (lit. 'the gaze') as direct object NP in these expressions, the possessive forms *mon/ton/son/… regard* (lit. 'my/your/his/her/… gaze') and plural forms (*mes/tes/ses/… regards*, lit. 'my/your/his/her/… gazes') also occur; and rather than only *les yeux* (lit. 'the eyes') the possessive forms *mes/tes/ses/… yeux* (lit. 'my/your/his/her/… eyes') can also be found. Some of the verbs in the expressions in (12) (the underlined ones) are inherently directional (e.g. *(a)baisser*: downward; *détacher*: away from the initial position; *détourner*: away from the initial position; *lever*: upward; *plonger*: downward). What we see, then, is that French does not wholly abandon its typical constructional 'habits' for visual motion. The following argumentation supports this view:

1. French may lack intransitive visual path verbs only for reasons of 'economy': such verbs would expand the lexicon needlessly, since it is perfectly possible to use physical motion verbs in combination with an object referring to the perceiver's gaze or eyes (and the eyes metonymically refer to the gaze). A transitive verb with a direct object NP is a very common pattern in French.

---

12. *Tourner* here just means 'to orient, to direct' and so does not express path. The same is true for the translation *turn*, which is compatible with any direction (down, up, left, right, toward NP, etc.)

2. Verb framing has often been considered only in relation to self-motion events, but caused-motion events can of course also be expressed in a verb-framed way (e.g. *lever* NP 'raise NP'). So, just because there are no intransitive path verbs for visual motion, this does not mean that French cannot use transitive path verbs in this semantic domain.
3. Not all verbs in this caused-motion construction express the path of vision and they are therefore still combined with a verb-external path complement (e.g. *jeter ses yeux sur la peinture* lit. 'throw one's eyes on the painting'); however, this is not different from what occurs in the domain of physical motion (e.g. *jeter la valise sur le lit* 'throw the suitcase on the bed'), so there is indeed structural parallelism between visual and physical motion in this respect.

This chapter has also considered some of the main correlates of verb framing and satellite framing: languages with satellite framing display a more varied use of manner-of-motion verbs and the verb-external paths tend to be more complex, with stacked path segments. The original text in English was found to display a rich variety of manner-specific visual perception verbs (*gaze*, *glance*, *peep*, *peer*, etc.), the Dutch text to contain almost the same number of types, and the French text a somewhat smaller number, in line with expectations. Surprisingly, however, the Dutch translation contains far fewer tokens of manner-of-vision expressions than the original text. Incidentally, this manner information did not reappear in adverbial phrases in the Dutch translation; in the French translation, there was one such occurrence (*glared at NP* was translated as *regarda fixement* NP 'looked fixedly at NP').[13] This absence of manner information may have been a translation effect, but it could also be the case that English, with its very large variety of physical motion verbs, has a similarly wide range of visual motion verbs compared to many other languages, including Dutch. There was hardly any difference between the Dutch and French translations in the number of tokens of manner-specific visual motion verbs.

---

13. In one case, the French translation omits visual motion information but expresses in the verb manner information that only appears in an adjunct in the original:

i. a. English original:
        … and she was **staring** <u>at me</u> with eyes as bright as two stars. (*The Witches*, p. 116)
    b. French translation:

Ses	yeux	scintill-aient	comme	des	étoile-s.
3PL.POSS	eye.PL	glisten-3PL.PRET	like	INDF.ART.PL	star-PL

        'Her eyes glistened like stars.'   (*Sacrées Sorcières*, p. 114)

As the French sentence does not, in fact, express visual perception, *scintiller* 'glisten' was not counted as a manner-of-vision verb.

English and Dutch were found to differ starkly from French in the expression of visual paths. In the English source text and the Dutch translation, path complements are extremely common, and these are often complex. The data on complex path complements align with observations made by Matsumoto et al. (2017) for English and German.[14] A path *can* be expressed externally to the verb in French, with the complement focusing on the source of the gaze (e.g. *fixer quelqu'un de ses yeux* 'stare at-someone from one's eyes'), an object along the ground, usually an aperture (e.g. *regarder par la fenêtre* 'look through the window'), or the location or object towards or at the end of the gaze (e.g. *regarder sous le lit* 'look under the bed', *jeter un coup d'œil sur sa main* 'throw a glance at her hand'). However, in the French translation, path PPs, let alone multiple or complex path PPs, were not used frequently, mainly because *regarder* NP 'look at NP' and *fixer* NP 'stare at NP' are very commonly used expressions, both of which realize the perceived object as a direct object NP.

In short, the basically verb-framed nature of French and the satellite-framed nature of Dutch and English extend to the expression of visual perception. In line with Slobin's (1987, 1996) *Thinking for speaking* hypothesis, we may even go so far as to assume that speakers of French may be cognitively less focused on manner of vision and/or complex paths of vision. Even in a somewhat artificial usage situation where a language user is almost forced to encode such semantic aspects, as in the case of the translator rendering a detailed visual motion expression from the source text into French, we find that much of the information about the manner of vision and/or the path of vision is frequently omitted. Consider (13) and (14), where the italicized parts in the source sentences are left untranslated in the French version:

(13) a. *I saw* The Grand High Witch *peering down at the floor and* staring with obvious puzzlement at William and Mary.   (*The Witches*, p. 81)

    b. La Grandissime Sorcière regardait William et Mary, visiblement déconcertée.
        'The Grand Witch looked (at) William and Mary, visibly bewildered'

(14) a. I was enjoying myself so much that I completely forgot I was in full view of anyone in the kitchen *who might happen to glance upwards*.
                                                              (*The Witches*, p. 150)

    b. Je m'amusais tellement que j'avais complètement oublié que tout le monde pouvait me voir dans la cuisine.   (*Sacrées Sorcières*, p. 151)
        'I me enjoyed so-much that I had completely forgotten that whole the world could me see in the kitchen'

---

14. Matsumoto et al.'s (2017) study came to my attention after I had nearly completed the revision of this chapter, which is why I have not formulated my hypotheses and predictions with direct reference to their work. I leave a more systematic comparison of their findings and mine to future research.

More research is needed, to be sure, to exclude the possibility that such omissions are simply due to a certain amount of stylistic and narrative freedom common in translations. Yet, if we assume that the translator remained as faithful to the source text as the target language's conventions allowed her to be, then these omissions are highly revealing of the lower degree of interest that speakers of French have in manner of vision and complex paths of vision compared to speakers of English and Dutch.

French, though, is actually not as neatly verb-framed as it might be assumed to be – to repeat a reservation I made in Section 3.2 and voiced in several studies, starting at the latest with Cummins (1996). Kopecka (2004), for instance, observes that many French motion verbs involve a spatial prefix (e.g. *é-* 'out-', *dé-* 'off-', *en-* 'in-', etc.), which, at least historically, are path satellites. Hickmann et al. (2017: 63) also point out that "a [Satellite-framing]-like pattern is possible in French … when Manner is marked and highlighted in discourse", as in their example *Il était en retard et il a couru jusqu'à l'école* ('He was late and he ran all the way to school'). This resonates with Morita's (this volume) claim that marked, visually salient motion events (e.g. skipping or crawling) license satellite framing in French more easily than do less attention-drawing manners of human motion (e.g. walking). Cappelle (2012) notes that there are several reflexive manner-of-motion verbs that can effortlessly be used with PPs to describe boundary-crossing events (e.g. *se faufiler dans…* 'sneak into…', *se glisser dans/entre/parmi…* 'slip into/between/among…', and *se plonger dans…* 'plunge into…'). Incidentally, this also highlights the necessity of including causative constructions in motion typology research (cf. Matsuse this volume; Meex this volume; Matsumoto this volume). Despite such caveats, French predominantly makes use of verb-framed encoding strategies for physical motion, while English and Dutch typically use satellite-framed strategies and, therefore, the contrastive differences (French vs. Dutch/English) and similarities (Dutch and English) found in the present study on visual motion are most plausibly explained as reflecting these typological differences and similarities. The results obtained in this study thus complement the findings of previous translation-based studies about the use of manner-of-motion verbs in English translations from French vs. German (Cappelle 2012), of phrasal verbs in English translations from Romance vs. Germanic languages (Cappelle and Loock 2017), and of manner-of-motion information in Spanish texts translated from English (Cifuentes-Férez and Rojo 2015) and from German (Molés-Cases 2018).

7.   Conclusion

The view that active visual perception is conceptualized as a kind of (fictive) motion of the gaze issuing forth from the eyes or that it is a kind of (actual) motion of the (still immaterial, imagined) gaze from one perceived object to another has been investigated here with data from Dutch, English, and French. In the Dutch translation of Roald Dahl's children's book *The Witches*, the syntactic path types available to speakers of Dutch occurred for visual motion in the same wide variety and in practically the same distribution as for physical motion. This strongly corroborates the hypothesis (cf. Gruber 1967) that languages exploit the patterns used for expressing physical motion in order to express visual motion as well.

While Matsumoto (2001) is correct in pointing out that French, as a verb-framed language, does not have a set of morphologically simple visual path verbs meaning such things as 'enter-with-one's gaze', 'exit-with-one's gaze', or 'ascend-with-one's gaze', this does not lead to a clearly satellite-framed-like encoding practice for visual motion in this language. Instead, we have seen here that French frequently adopts transitive physical motion verbs, some of which inherently express path, combined with a direct object argument referring to the perceiver's eyes, gaze, or glance. This suggests that the verb-framed nature of French is not wholly abandoned for visual motion.

Moreover, even though French does not have distinct visual path verbs, visual motion expressions in French certainly do not show correlated features of satellite framing. Compared to the Dutch and English texts, there are not very many different manner-specific visual motion expressions in the French text but, remarkably, the French visual motion expressions that are of the manner-specific kind had almost as high a combined token frequency in the French text as the Dutch manner-specific visual motion expression types had in the Dutch text. French differs most dramatically from both English and Dutch with respect to visual path complements, not so much because these are hardly ever complex in French as because visual path complements, regardless of their complexity, are much less common in French than in English or in Dutch. This is primarily because the manner-neutral verb *regarder* 'look', though it can be used with path PPs, is most typically combined with a direct object NP referring to the perceived object. The common manner-specific verb *fixer* is also typically used this way.

All in all, the findings presented here are generally in line with the data on visual motion presented by Slobin (2009) about English, Russian, Spanish, and Turkish and by Cifuentes-Férez (2014) about English and Spanish. Both studies provided strong evidence for parallels between physical and visual motion with respect to manner of vision and visual paths. The present study is also consistent with work on non-actual motion in more general terms (Blomberg 2015), which

found that typological differences concerning actual motion tend to carry over to the expression of non-actual motion. The convergence with this more general research suggests, however, that we should be cautious about the sort of wider conclusion we can draw from the present study. Just because, as I have argued, visual motion can involve actual motion (namely in those cases where one looks from one perceived object to another and the gaze, immaterial though it is, thus actually moves as a whole), this does not mean that the structural correspondence between physical and visual motion found here is due to the involvement of actual motion in some of the visual motion events. For one, not all visual motion events employ actual motion of the gaze. For another, much-described sentences of the type *The road goes through the forest*, which have nothing to do with visual emanation at all, also reveal that there can be structural correspondence between actual and (more obviously) non-actual motion.

The research conducted for the present chapter could easily be extended to a larger sample of languages. Roald Dahl's *The Witches*, which is chock-full of visual motion events (see Appendix), has been translated into at least twenty languages, apart from Dutch and French: it is also available in Mandarin Chinese, Danish, Finnish, Galician, German, Greek, Estonian, Hungarian, Italian, Persian, Polish, Romanian, Russian, Slovakian, Singhalese, Spanish, Swedish, Turkish, Vietnamese, and Welsh.[15] I would therefore like to invite colleagues versed in one or more of these languages to look into visual motion in one or more of these translations.

Acknowledgements

References

Ameka, F., & Essegbey, J. 2013. Serialising languages: Satellite-framed, verb-framed or neither. *Ghana Journal of Linguistics*, 2(1), 19–31.

Baicchi, A. 2005. Translating phrasal combinations across the typological divide. In M. Bertuccelli Papi (Ed.), *Studies in the semantics of lexical combinatory patterns* (487–519). Pisa: Pisa University Press.

Baker, C. L. 1978. *Introduction to Generative-Transformational Syntax*. Englewood Cliffs, NJ: Prentice-Hall.

---

15. http://www.goodreads.com/work/editions/105046-the-witches?page=1, last accessed 29 January 2016.

Beavers, J., Levin, B., & Tham, S. W. 2010. The typology of motion verbs revisited. *Journal of Linguistics*, 41, 331–377. https://doi.org/10.1017/S0022226709990272

Beliën, M. 2008. *Construction, constraints, and construal: Adpositions in Dutch*. Utrecht: LOT Publications.

Berman, R., & Slobin, D. I. 1994. *Relating events in narrative: A crosslinguistic and developmental study*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Berthele, R. 2013. Disentangling manner from path: Evidence from varieties of German and Romance. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the encoding of motion events* (55–76). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.03ber

Blomberg, J. 2014. Motion in language and experience: Actual and non-actual motion in Swedish, French and Thai. Ph.D. dissertation, Lund University.

Blomberg, J. 2015. The expression of non-actual motion in Swedish, French and Thai. *Cognitive Linguistics*, 26(4), 657–696. https://doi.org/10.1515/cog-2015-0025

Blomberg, J. 2017. Non-actual motion in language and experience. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (205–227). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.09bol

Blomberg, J., & Zlatev, J. 2014. Actual and nonactual motion: Why experientialist semantics needs phenomenology (and vice versa). *Phenomenology and the Cognitive Sciences*, 13, 395–418. https://doi.org/10.1007/s11097-013-9299-x

Broccias, C. 2003. *The English change network: Forcing changes into schemas*. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110901207

Caballero, R. 2017. Metaphorical motion constructions across specialized genres. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (229–253). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.10cab

Cappelle, B. 2005. Particle patterns in English: A comprehensive coverage. Ph.D. dissertation, K.U. Leuven.

Cappelle, B. 2012. English is less rich in manner-of-motion verbs when translated from French. *Across Languages and Cultures*, 13(2), 173–195. https://doi.org/10.1556/Acr.13.2012.2.3

Cappelle, B. 2013. Raised Grounds in Dutch and English: Common underlying semantics. Paper presented at the Workshop Space, Time and Existence: Typological, cognitive and philosophical viewpoints, 46th annual meeting of the Societas Linguistica Europaea (SLE 2011), Split, Croatia, 18–21 September 2013.

Cappelle, B. 2015. Achterzetsels: de spraakkunst uit ermee! [Postpositions: out of the grammar with them!] *Over Taal*, 54(1), 14–17.

Cappelle, B., & Loock, R. 2017. Typological differences shining through: The case of phrasal verbs in translated English. In G. De Sutter, M.-A. Lefer, & I. Delaere (Eds.), *Empirical translation studies: New theoretical and methodological traditions* (235–264). Berlin & New York: Mouton de Gruyter. https://doi.org/10.1515/9783110459586-009

Cappelli, F. 2013. Etude de mouvement fictif à travers un corpus d'exemples du français: Perspective sémantique du lexique au discours. Ph.D. dissertation, Université Toulouse 2.

Cifuentes-Férez, P. 2014. A closer look at Paths of vision, Manner of vision and their translation from English into Spanish. *Languages in Contrast*, 14(2), 214–250. https://doi.org/10.1075/lic.14.2.03cif

Cifuentes-Férez, P., & Rojo, A. 2015. Thinking for translating: A think-aloud protocol on the translation of manner-of-motion verbs. *Target*, 27(2), 273–300. https://doi.org/10.1075/target.27.2.05cif

Croft, W., Barðdal, J., Hollmann, W., Sotirova, V., & Taoka, C. 2010. Revising Talmy's typological classification of complex events. In H. Boas (Ed.), *Contrastive construction grammar* (201–235). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cal.10.09cro

Cummins, S. 1996. Movement and direction in French and English. *Toronto Working Papers in Linguistics*, 15(1), 31–54.

Egan, Th. 2015. Manner and path: Evidence from a multilingual corpus. *CogniTextes*, 12, 1–32. http://cognitextes.revues.org/788. https://doi.org/10.4000/cognitextes.788

Egan, Th., & Rawoens, G. 2013. Moving *over* in(to) English and French: A translation-based study of 'overness'. *Languages in Contrast*, 13(2), 193–211. https://doi.org/10.1075/lic.13.2.04ega

Gisborne, N. 2010. *The event structure of perception verbs*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199577798.001.0001

Goldberg, A. E. 1991. It can't go up the chimney down: Paths and the English resultative. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistic Society: General Session and Parasession on The Grammar of Event Structure* (368–378). Berkeley, CA: Berkeley Linguistics Society.

Goldsmith, J. 1979. On the semantic nature of *see*. *Linguistic Inquiry*, 10, 347–352.

Gruber, J. S. 1967. Look and see. *Language*, 43(4), 937–947. https://doi.org/10.2307/411974

Hickmann, M., Engemann, H., Soroli, E., Hendriks, H., & Vincent, C. 2017. Expressing and categorizing motion in French and English. In Ibarretxe-Antuñano, I. (Ed.), *Motion and space across languages: Theory and applications* (61–94). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.04hic

Hoelbeek, T. 2017. *The evolution of complex spatial expressions within the Romance family: A corpus-based study of French and Italian*. Leiden, The Netherlands: Koninklijke Brill. https://doi.org/10.1163/9789004314580

Ibarretxe-Antuñano, I. 2001. An overview of Basque Locational cases: Old descriptions, new approaches. Technical report. International Computer Science Institute. No 01-006. (Available at https://www.icsi.berkeley.edu/icsi/node/2926).

Ibarretxe-Antuñano, I. 2003. What translation tells us about motion: a contrastive study of typologically different languages. *International Journal of English Studies*, 3(2), 151–176.

Ibarretxe-Antuñano, I. 2004. Motion events in Basque narratives. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (89–111). Mahwah, NJ: Lawrence Erlbaum Associates.

Ibarretxe-Antuñano, I. 2009. Path Salience in Motion Events. In J. Guo, E. Lieven, N. Budwig, S. Ervin-Tripp, K. Nakamura, & Ş. Özçalışkan (Eds.), *Crosslinguistic approaches to the psychology of language: Research in the tradition of Dan Isaac Slobin* (403–414). New York: Psychology Press.

Ibarretxe-Antuñano, I. 2015. Going beyond motion events typology: The case of Basque as a verb-framed language. *Folia Linguistica*, 49(2), 307–352. https://doi.org/10.1515/flin-2015-0012

Ibarretxe-Antuñano, I. 2017a. Motion and semantic typology: A hot old topic with exciting caveats. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (13–36). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.02iba

Ibarretxe-Antuñano, I. (Ed.). 2017b. *Motion and space across languages: Theory and applications*. Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59

Ibarretxe-Antuñano, I., & Filipović, L. 2013. Lexicalisation patterns and translation. In A. Rojo & I. Ibarretxe-Antuñano (Eds.), *Cognitive linguistics and translation: Advances in some theoretical models and applications* (251–281). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110302943.251

Jackendoff, R. 1983. *Semantics and cognition*. Cambridge, MA: The MIT Press.

Kopecka, A. 2004. Étude typologique de l'expression de l'espace: Localisation et déplacement en français et en polonais. Ph.D. dissertation, Université Lumière Lyon 2.

Laffut, A. 1998. The locative alternation: A contrastive study of Dutch vs. English. *Languages in Contrast*, 1(2), 127–160. https://doi.org/10.1075/lic.1.2.03laf

Lakoff, G., & Ross, J. R. 1966. Criterion for verb phrase constituency. Technical Report NSF-17, Aiken Computation Laboratory, Harvard University.

Langacker, R. W. 1986. Abstract motion. In V. Nikiforidou, M. VanClay, M. Niepokuj, & D. Feder (Eds.), *Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistics Society* (455–471). Berkeley, CA: Berkeley Linguistics Society.

Langacker, R. W. 1987. *Foundations of Cognitive Grammar. Vol. 1. Theoretical Prerequisites*. Stanford, CA: Stanford University Press.

Langacker, R. W. 2000. Virtual reality. *Studies in the Linguistic Sciences*, 29, 77–103.

Langacker, R. W. 2005. Dynamicity, fictivity, and scanning: The Imaginative basis of logic and linguistic meaning. In D. Pecher & R. A. Zwaan (Eds.), *Grounding cognition: The role of perception and action in memory, language and thinking* (164–197). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511499968.008

Malt, B. C., Ameel, E., Imai, M., Gennari, S. P., Saji, N., & Majid, A. 2014. Human locomotion in languages: Constraints on moving and meaning. *Journal of Memory and Language*, 74, 107–123. https://doi.org/10.1016/j.jml.2013.08.003

Matlock, T. 2004a. Fictive motion as cognitive simulation. *Memory & Cognition*, 32(8), 1389–1400. https://doi.org/10.3758/BF03206329

Matlock, T. 2004b. The conceptual motivation of fictive motion. In G. Radden & R. Dirven (Eds.), *Motivation in Grammar* (221–248). Amsterdam: John Benjamins.

Matlock, T. 2010. Abstract motion is no longer abstract. *Language & Cognition*, 2(2), 243–260. https://doi.org/10.1515/langcog.2010.010

Matlock, T., & Bergman, T. 2015. Fictive motion. In E. Dabrowska & D. Divjak (Eds.), *Mouton Handbook of Cognitive Linguistics* (546–562). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110292022-027

Matsumoto, Y. 1996a. Subjective motion and English and Japanese verbs. *Cognitive Linguistics*, 7, 183–226. https://doi.org/10.1515/cogl.1996.7.2.183

Matsumoto, Y. 1996b. How abstract is subjective motion? A comparison of coverage path expressions and access path expressions. In A. E. Goldberg (Ed.), *Conceptual structure, discourse and language* (359–373). Stanford: CSLI Publications.

Matsumoto, Y. 2001. *Lexicalization patterns and caused and fictive motion: The case of typological split*. Handout for a lecture at SUNY Buffalo, NY.

Matsumoto, Y. 2017. Eigo ni okeru idoo-zisyoo-hyoogen no taipu to keiro no hyoogen. [Types of motion-event expressions and expressions of path in English]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Matsumoto, Y., Akita, K., Bordilovskaya, A., Eguchi, K., Koga, H., Mano, M., Matsuse, I., Morita, T., Takahashi, K., Takahashi, R., & Yoshinari, Y. 2017. Linguistic representations of the path of vision: a crosslinguistic experimental study. Paper presented at the international workshop "NAMED: Neglected Aspects of Motion-Event Descriptions", Paris, 19–20 May 2017.

Mauranen, A., & Kujamäki, P. (Eds.). 2004. *Translation universals: Do they exist?* Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/btl.48

Molés-Cases, T. 2018. Some advances in the study of the translation of manner of motion events: Integrating key concepts of Descriptive Translation Studies and 'Thinking for Translating'. *Review of Cognitive Linguistics*, 16(1), 152–190. https://doi.org/10.1075/rcl.00007.mol

Oxford Dictionaries. n.d. penetrate. *Oxford Dictionaries*. Available online: https://en.oxforddictionaries.com/definition/penetrate. Last accessed: 29 September 2018.

Oxford Dictionaries. n.d. stare. *Oxford Dictionaries*. Available online: https://en.oxforddictionaries.com/definition/stare. Last accessed: 29 September 2018.

Özçalışkan, Ş. 2004. Encoding the manner, path and ground components of a metaphorical motion event. *Annual Review of Cognitive Linguistics*, 2, 73–102.
https://doi.org/10.1075/arcl.2.03ozc

Özçalışkan, Ş. 2005. Metaphor meets typology: Ways of moving metaphorically in English and Turkish. *Cognitive Linguistics*, 16(1), 207–246. https://doi.org/10.1515/cogl.2005.16.1.207

Özçalışkan, Ş., Stites, L. J., & Emerson, S. N. 2017. *Crossing the road* or *crossing the mind*: How differently do we move across physical and metaphorical spaces in speech and in gesture? In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (257–277). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.11ozc

Pavlenko, A., & Volynsky, M. 2015. Motion encoding in Russian and English: Moving beyond Talmy's typology. *The Modern Language Journal*, 99(S1), 32–48.
https://doi.org/10.1111/modl.12177

Radford, A. 1988. *Transformational Grammar: A first course*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511840425

Rojo, A., & Valenzuela, J. 2003. Fictive motion in English and Spanish. *International Journal of English Studies*, 3(2), 123–149.

Slobin, D. I. 1987. Thinking for speaking. In J. Aske, N. Beery, L. Michaelis, & H. Filip (Eds.), *Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society* (435–445). Berkeley, CA: Berkeley Linguistics Society.

Slobin, D. I. 1996. From "thought and language" to "thinking for speaking". In J. J. Gumperz & S. C. Levinson (Eds.), *Rethinking linguistic relativity* (70–96). Cambridge: Cambridge University Press.

Slobin, D. I. 2004. The many ways to search for a frog. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Hillsdale, NJ: Lawrence Erlbaum.

Slobin, D. I. 2005. Relating narrative events in translation. In D. D. Ravid & H. B.-Z. Shyldkrot (Eds.), *Perspectives on language and language development: Essays in honor of Ruth A. Berman* (115–129). Dordrecht, the Netherlands: Kluwer. https://doi.org/10.1007/1-4020-7911-7_10

Slobin, D. I. 2006. What makes manner of motion salient? Explorations in linguistic typology, discourse, and cognition. In M. Hickmann & S. Robert (Eds.), *Space in languages: Linguistic systems and cognitive categories* (59–81). Amsterdam & Philadelphia: John Benjamins.
https://doi.org/10.1075/tsl.66.05slo

Slobin, D. I. 2009. Relations between Paths of motion and Paths of vision: A crosslinguistic and developmental exploration. In V. C. M. Gathercole (Ed.), *Routes to language: Studies in honor of Melissa Bowerman* (197–222). New York & London: Psychology Press.

Soroli, E. 2011. Language and spatial cognition in French and in English: Crosslinguistic perspectives on aphasia. Ph.D. dissertation, University of Paris 8.

Soroli, E., Hickmann, M., & Hendriks, H. 2019. Casting an eye on motion events: eye tracking and its implications for typology. In M. Aurnague & D. Stosic (Eds.), *The semantics of dynamic space in French: Descriptive, experimental and formal studies on motion expression* (250–288). Amsterdam: John Benjamins.

Soroli, E. & Verkerk, A. 2017. Motion events in Greek. *Cognitextes*, 15(1), 1–54.

Stosic, D., Fagard, B., Sarda, L., & Colin, C. 2015. Does the road go up the mountain? Fictive motion between linguistic conventions and cognitive motivations. *Cognitive Processing*, 16(S1), 221–225. https://doi.org/10.1007/s10339-015-0723-8

Talmy, L. 1983. How language structures space. In H. L. Pick, Jr. & L. P. Acredolo (Eds.), *Spatial orientation: Theory, research, and application* (225–282). New York: Plenum Press. https://doi.org/10.1007/978-1-4615-9325-6_11

Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and syntactic descriptions, Vol. 3. Grammatical categories and the lexicon* (36–149). Cambridge: Cambridge University Press.

Talmy, L. 1991. Path to realization: A typology of event conflation. *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistic Society: General Session and Parasession on The Grammar of Event Structure* (480–519). Berkeley, CA: Berkeley Linguistics Society.

Talmy, L. 1996. Fictive motion in language and 'ception". In P. Bloom, M. A. Peterson, L. Nadel, & M. F. Garrett (Eds.), *Language and space* (211–276). Cambridge, MA & London: The MIT Press.

Talmy, L. 2000. *Toward a cognitive semantics (2 Volumes)*. Cambridge, MA: MIT Press.

Talmy, L. 2017a. Foreword: Past, present and future of motion research. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (1–12). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.01tal

Talmy, L. 2017b. *The targeting system of language*. Cambridge, MA: The MIT Press.

Talmy, L. 2018. *Ten lectures on cognitive semantics*. Leiden, The Netherlands: Koninklijke Brill. https://doi.org/10.1163/9789004349575

Waliński, J. T. 2018. *Verbs in Fictive Motion*. Łódz: Łódz University Press.

Yasuhara, M. 2013a. One eventuality per subevent: An event-based account of argument structure. *Language Sciences*, 40, 251–262. https://doi.org/10.1016/j.langsci.2013.06.004

Yasuhara, M. 2013b. Further specification analysis of the Unique Path Constraint effect: From the perspective of spatial extension. *English Linguistics Research*, 2(2), 141–154. https://doi.org/10.5430/elr.v2n2p141

Zlatev, J., & Yangklang, P. 2004. A third way to travel: The place of Thai in motion event typology. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative, Vol. 2. Typological and contextual perspectives* (159–190). Mahwah, NJ: Lawrence Erlbaum.

Appendix. Visual motion events in Roald Dahl's *The Witches*

Below is a list of all the instances of visual motion found in Roald Dahl's *The Witches*, in its original (non-translated) version. Page numbers are to the electronically available version (cf. footnote 6). As in Tables 1, 2 and 3, verbs (or verbal expressions, such as *take a look*) are in boldface and path elements are underlined.

1.   you can still never be quite sure whether it is a witch you are **gazing** at or just a kind lady (p. 5)
2.   **Look** carefully at that teacher. (p. 5)
3.   You could see her face **looking** out of the window (p. 12)
4.   Wherever she was, whether outside feeding the ducks or inside **looking** out of the window, she was always motionless (p. 12)
5.   I **gazed** up at my grandmother who sat there like some ancient queen on her throne. (p. 13)
6.   Her eyes were misty-grey and they seemed to be **looking** at something many miles away. (p. 13)
7.   **Look** carefully at the eyes (p. 23)
8.   **Look** in the middle of each eye (p. 23)
9.   **staring** up at her, fascinated (p. 23)
10. You can still never be absolutely sure whether a woman is a witch or not just by **looking** at her (p. 26)
11. She didn't **look** at me. (p. 27)
12. I kept **looking** at the hand with the missing thumb (p. 30)
13. and every time I **looked** down, I got a tingle along my spine (p. 37)
14. She was **looking** up at me (p. 37)
15. "I have a present for you," she said, still **staring** at me (p. 37)
16. Without **taking** her eyes from my face (p. 38)
17. I saw her **glance** down at that hand of hers that didn't have a thumb. (p. 40)
18. I **peeped** in. (p. 50)
19. I crouched behind it and **peered** through the crack between two of the folding sections. (p. 53)
20. I **glanced** swiftly around at the rest of the now seated audience. (p. 56)
21. I **glanced** frantically behind me for a back door to escape through. (p. 56)
22. There's no reason in the world why they should come and **look** behind the screen. (p. 56)
23. Rather shakily, I got to my knees and **peered** once again through the crack in the screen. (p. 57)
24. All the women, or rather the witches, were now sitting motionless in their chairs and **staring** as though hypnotised at somebody who had suddenly appeared on the platform. (p. 57)
25. And why, for heaven's sake, were all the other witches **gazing** at her with such a mixture of adoration, awe and fear? (p. 57)
26. Just **looking** at it gave me the shakes all over. (p. 58)
27. you become mesmerised by it and can't **look** away (p. 58)
28. There was a look of serpents in those eyes of hers as they **flashed** around the audience. (59)
29. The brilliant snake's eyes … **glared** unblinkingly at the witches who sat facing her. (p. 59)
30. and I am **looking** out of the vindow [sic] at the beach, and vot [sic] am I seeing? (p. 63)
31. I saw the witches all **looking** at one another with deeply troubled expressions.
32. The Grand High Witch **glared** around the room. (p. 64)
33. The Grand High Witch paused and **glared** at the mass of eager faces in the audience. (p. 69)

34. The Grand High Witch **glared** <u>at the witches in the audience</u>. (p. 72)
35. I **looked** <u>toward the platform</u>. (p. 81)
36. I saw The Grand High Witch **peering** <u>down</u> <u>at the floor</u> (p. 81)
37. and **staring** with obvious puzzlement <u>at William and Mary</u>. (p. 81)
38. All you have to do if you are vishing [sic] to make a child very small is to **look** <u>at him</u> through the wrrrong end of a telescope. (p. 83)
39. "… And that", she said, **glancing** <u>at her wrist-watch</u>, "is in prrree-cisely seven minutes' time!" (p. 87)
40. she **glanced** again <u>at her watch</u> (p. 88)
41. Bruno shook himself clear and **stared** <u>at her</u>. (p. 91)
42. She **stared** <u>back</u> <u>at him</u>, smiling with the lips of her mask. (p. 91)
43. Every witch in the audience was **staring** <u>at Bruno</u>. (p. 91)
44. The Grand High Witch stood on the very centre of the platform, and those dangerous **eyes** of hers **travelled** slowly <u>around the audience of witches who were sitting so meekly before her</u>. (p. 94)
45. All the witches suddenly stopped and turned and **looked** <u>towards the speaker</u>. (p. 97)
46. Vot's [sic] going on down there? shouted The Grand High Witch, **glaring** <u>down</u> <u>from the platform</u>. (p. 98)
47. I **looked** <u>round</u> and I saw a hideous painted and powdered witch's face staring down at me (p. 100)
48. I looked round and I saw a hideous painted and powdered witch's face **staring** <u>down</u> <u>at me</u> (p. 100)
49. I **peeped** <u>round the leg of the chair</u> (p. 104)
50. He **glanced** <u>up</u> <u>at me</u> for about two seconds (p. 106)
51. He stopped eating and **stared** <u>at me</u> with small black eyes. (p. 107)
52. **Take a look** <u>at them</u>. (p. 108)
53. Bruno **looked** <u>down</u> <u>at his paws</u>. (p. 108)
54. She **looked** <u>around</u> and saw two small brown mice on the carpet. (p. 112)
55. She leant against it, **staring** <u>down</u> <u>at me</u> white-faced and shaking all over. (p. 112)
56. My grandmother grasped the arm of her chair to steady herself, but her **eyes** never <u>left</u> me. (p. 113)
57. She leant forward and **stared** <u>at me</u>. (p. 114)
58. and she was **staring** <u>at me</u> with eyes as bright as two stars (p. 116)
59. She turned and **stared** <u>at me</u>. (p. 117)
60. Just **look** <u>at the power that terrible Grand High Witch has in her eyes alone</u>! (p. 117)
61. My grandmother **looked** <u>at Bruno who was guzzling away in the bowl of bananas</u>. (pp. 117–18)
62. "Would you please take me out on to my balcony so I can **look** <u>down</u>," I said. (p. 119)
63. We both **peered** <u>down</u> <u>to the balcony immediately below</u>. (p. 120)
64. She **looked** <u>up and down the long empty hotel corridor</u>. (p. 122)
65. Our rooms were in the front of the hotel and they **looked** <u>down</u> <u>on to the beach and the sea</u>. (p. 123)
66. Through the stitches I could **see** <u>out</u> quite clearly. (p. 124)
67. I **looked** <u>up</u> and saw my grandmother's head sticking out over the railings of the balcony above. (p. 124)
68. They crouched on the carpet, **staring** <u>at me</u> with large black eyes. (p. 126)
69. I **stared** <u>back</u> <u>at them</u>. (p. 126)

70. I stood there clutching the bottle and **staring** <u>at the frogs</u>. (p. 126)
71. I **peeped** <u>round the bedpost</u>. (p. 127)
72. Suddenly the Grand High Witch's face came into view, **peering** <u>under the bed</u>. (p. 127)
73. I **peeped** <u>round the bedpost</u> again (p. 127)
74. She **looked** <u>at her watch</u>. (p. 131)
75. Suddenly **her eye fell** <u>upon Bruno</u>. (p. 131)
76. Bruno **scowled** <u>at her</u>. (p. 132)
77. "… Do you want to come along?" she added, **looking** <u>at me</u>. (p. 132)
78. If you must **peep** <u>out</u> now and again, don't show more than your nose (p. 132)
79. Mr Jenkins **looked** <u>at her</u> <u>over the top of his newspaper</u> and frowned. (p. 133)
80. Mrs Jenkins **looked** <u>up</u> but went on knitting. (p. 134)
81. One or two other groups in the room were beginning to **stare** <u>at us</u> now. (p. 135)
82. Mrs Jerkins **took one look** <u>at the fat little brown mouse who was still chewing a bit of banana</u> (p. 137)
83. My grandmother **stared** <u>at me</u>. (p. 139)
84. She **glanced** <u>at her watch</u>. (p. 141)
85. Bruno **looked** <u>up</u>. (p. 142)
86. **Peeping** <u>out of the handbag</u>, I could see in the very centre of the room two long tables that were not yet occupied. (p. 145)
87. My grandmother **looked** <u>towards the long tables</u> but said nothing. (p. 145)
88. when I **glanced** <u>up a bit higher</u> (p. 147)
89. I dropped to the floor and **peeped** <u>round the garbage-bin</u>. (p. 148)
90. I was enjoying myself so much that I completely forgot I was in full view of anyone in the kitchen who might happen to **glance** <u>upwards</u>. (p. 150)
91. A mouse! **Look** <u>at that dirty little mouse</u>! (p. 150)
92. My tail was hurting terribly. I curled it round so as to **have a look** <u>at it</u>. (p. 153)
93. "Let me **look** <u>at it</u>," she said. (p. 154)
94. you can **peep** <u>out</u> as long as you are careful not to be seen. (p. 155)
95. I **peered** <u>over the top of the handbag</u>. (p. 155)
96. The family at the table nearest to us had all stopped eating and were **staring** <u>at Mr Jerkins</u>. (p. 159)
97. and all over the place heads were turning round to **stare** <u>at Mr Jerkins</u> (p. 161)
98. I stayed where I was, **peeping** <u>out of my grandmother's handbag</u>. (p. 162)
99. In her excitement, she jumped up on to her chair so that she could **see** <u>over the heads of the crowd</u>. (p. 164)
100. She sat there smoking away and **gazing** <u>at the fire</u>. (p. 171)
101. I stopped chewing and **stared** <u>at her</u>. (p. 175)
102. I was **looking** <u>up</u> <u>at her face</u> when she said this (p. 176)
103. My grandmother **stared** <u>at me</u>. (p. 184)

CHAPTER 9

Neutral and specialized path coding

Toward a new typology of path-coding devices and languages

Yo Matsumoto

National Institute for Japanese Language and Linguistics

The purpose of this chapter is to present a new typology of path coding used in motion event descriptions in various languages. The crucial starting point for the new typology is how Path is expressed across different constructional types of motion event representations. The constructional types considered are Self-motion, Caused motion, and Emanation. The study suggests that path-coding devices can be divided into two major kinds: one kind with broad distributional potential across different constructional types of representations, and the other specialized for a particular constructional type of representation. Languages tend to have preferences toward adopting which kind of path-coding device is predominantly used. Languages that utilize the former can be called neutral path-coding languages, and those utilizing the latter, specialized path-coding languages. Path and Deixis coding in several languages are examined in these terms. Some patterns of intralinguistic and interlinguistic variations are also discussed.

Keywords: caused motion, deixis, representation type, self-motion, visual emanation

1. Introduction

Talmy's (1991, 2000) typology of event integration has been the most widely discussed typology of motion event descriptions (see, for example, Slobin 1996, 2004; Matsumoto 2003; Croft et al 2010; Beavers, Levin and Tham 2010; Ibarretxe-Antuñano 2017). Talmy classifies languages into two types based on where the Path schema is expressed when the Path schema and one of the co-events of motion (e.g. Manner) are integrated into a clause. The two types are (1) satellite-framed languages, in which Path is expressed by what he calls "satellites" (elements in a position sister to the verb (root)) (e.g. English, Mandarin Chinese, Atsugewi), and (2) verb-framed languages, in which Path is expressed by the main verb (e.g. Spanish, Japanese, Hebrew). Compare the English and Spanish examples in (1).

(1)   a.   *The bottle floated **out** (of the cave).*   (Talmy 1985: 69)
       b.   Spanish
            *La botella **salió**   de   la   cueva flotando.*
            the bottle   moved.out from the cave   floating
            'The bottle exited from the cave, floating.'

A number of questions have been raised concerning this typology (see Matsumoto 2003, 2017a; Ibarretxe-Antuñano 2017; Matsumoto and Kawachi this volume). One issue concerns the term "verb". What Talmy means by the verb is the main verb (root) (e.g. Talmy 2009), while verbs in other positions (e.g. participles) are excluded. In this respect, the "verb" does not refer to the grammatical category of the verb, but to the grammatical function of the head of the sentence (Matsumoto 2003). Some have also questioned the appropriateness of the term "satellites". Satellites are defined as an element in a position sister to the main verb root, either in syntax (e.g. English particles such as *out* in *ran out*), or in morphology (e.g. German prefixes such as *aus* in *ausgehen*) (see Talmy 2000). However, Path is often coded in positions other than these (or the main verb root) (Fortis and Vittrant 2016). Adpositions and case markers (what Wälchli (2001) calls "adnominals" as opposed to "adverbals") are examples. These elements are often referred to as satellites in spite of their failure to satisfy the definition of the term (see Talmy 2016: 135). Based on such observations, Matsumoto (2003) and Croft et al. (2010) suggest that the contrast should be better formulated as one between the main verb and other elements.

Some of the basic assumptions of Talmy's typology do not necessarily hold in all languages. Talmy's typology is based on the idea that Path is coded in one position in a clause, but this is not necessarily the case. Sinha and Kuteva (1995) have pointed out that the same Path notion can in fact be overtly distributed in more than one position in a clause, such as in the main verb and adnominals (see below; see also Fortis and Vittrant 2016). Talmy's idea of event integration also presupposes that various subevents of motion are integrated into a single clause. However, Croft et al. (2010) point out that the use of complex sentences involving clausal coordination and subordination is common in motion event descriptions in some languages. Such languages do not fall nicely into the two types Talmy recognizes.

Slobin (2004) also discusses cases where the binary opposition does not seem to apply, and has posited a third type of language. He observes that in some languages a clause can have manner and path verbs (or verb roots) that appear to be of equal status. He calls these "equipollently framed" languages. He treats Mandarin Chinese, Jaminjung, Klamath, and Thai as this type (see also Zlatev and Yangklang 2004; Ameka and Essegbey 2013). One Thai example is given in (2), in which a serial verb construction is used.

(2) Thai
    cɔɔn wîŋ khûn banday pay
    John run ascend stairs   go
    'John went running up the stairs.'

Whether these languages in fact fall into this third category is a question requiring a careful analysis of the syntactic and morphological status of path-coding elements (see Talmy 2009, 2012, 2016).

It is also known that there is intralinguistic variation in terms of path-coding positions (Schaefer 1989; Talmy 2000; Matsumoto 2001; Kopecka 2004; Croft et al. 2010; Berthele 2013). A language can adopt a "split system" (Talmy 2000), in which different patterns are employed for different types of events. The choice of linguistic pattern depends on such factors as the nature of the Path (Aske 1989; Slobin and Hoiting 1994). It has been argued that some verb-framed languages exhibit a pattern similar to satellite-framed languages in describing events that do not involve boundary crossing, as in the Spanish example in (3).

(3) Spanish
    La botella flotó   hacia   la cueva.   (Aske 1989)
    the bottle floated toward the cave
    'The bottle floated toward the cave.'

Among Romance languages, which are claimed to be generally verb-framed, Italian appears to employ the patterns of satellite-framed languages more often, employing the verb-particle construction (e.g. *andare su* 'go up') in a way not found in many other Romance languages (see Iacobini and Masini 2006). Thus, even outside the languages in which Manner and Path expressions appear to be of equal status, one needs to talk about the degree to which a particular language adheres to one of the two typological patterns (see Ibarretxe-Antuñano and Hijazo-Gascón 2012; Hijazo-Gascón and Ibarretxe-Antuñano 2013; Fagard, Stosic, and Cerruti 2017).

With all of these variations – recognition of the third type and the degree to which a language adheres to a pattern – it is not clear whether a language can be unequivocally characterized as one of Talmy's two types in terms of path-coding positions.

In this chapter, I argue that an alternative conceptualization of the typology of motion event descriptions gives a relatively clearer division among languages. New insights can be gained by considering not just Self-motion but also Caused motion and "(Visual) Emanation" (Talmy 2000), and by observing whether the path-coding devices used are neutral to all three of these types of motion event representations, or specific to one of them. This approach classifies languages in

terms of two opposing poles, and classifies languages that pose difficulty into one of them, making the third type unnecessary. This new typology does recognize intermediate realizations between the two types, but they can be characterized in terms of the coexistence of (only) two coding patterns. I also examine the coding patterns of Deixis, which are often different from those of such Path notions as INTO and UP. I use data from a number of languages, including Akan, Mandarin Chinese, English, French, Hungarian, Italian, Jaminjung, Japanese, Korean, Mongolian, Newar, Russian, Sidaama, Spanish, and Thai, often referring to other chapters in this volume.

2.   Toward a new typology

2.1   Constructional types of motion event representations

The linguistic representation of motion can be divided into three major constructional types exemplified in (4): types in which a Figure is expressed in the Subject position, the Object position, or nowhere. The three constructional types are called Self-motion, Caused motion, and Emanation (see also Matsumoto and Kawachi this volume).

(4)   a.   Self-Motion (SUBJ moves):
           Bill ran up the stairs.
      b.   Caused motion (OBJ moves):
           Susan tossed a ball up to him.
      c.   Emanation (Nothing in a clause moves):
           Kim looked up at the sky.

In Self-motion, the Figure appears as the subject of the sentence, as exemplified in (4a). This covers Talmy's (2000) nonagentive motion (*The bottle floated away*) and self-agentive motion (*John ran away*), and roughly corresponds to Goldberg's (1995) Intransitive motion construction. I avoid the term "Intransitive" motion construction because Self-motion covers not just intransitive sentences like (4a), but also transitive sentences which have a Figure as their subject (e.g. *Bill entered the building*).

In Caused motion, exemplified in (4b), the Figure is expressed as the object of the sentence (in the active or unmarked voice). This roughly corresponds to Talmy's agentive motion. Caused motion, however, is more inclusive and can be instigated by a nonagentive cause (e.g. *The sound scared the birds away*).

In Emanation, exemplified in (4c), the Figure is not expressed in any argument of the verb (the Figure implicit in (4c) is a glance). This constructional type is used

to depict the fictive motion of not just vision, but also speech and other entities (e.g. *He shouted across the street; She pointed toward the building*) (see Talmy 1996), but I will use the case of vision as a representative case. This representation type is not as common as the other two, and it involves only one subtype of fictive or nonactual motion expressions (Talmy 1996; Blomberg 2014; Slobin 2009; Huumo 2010; Cifuentes-Férez 2014; Blomberg 2014; Ma 2016; Cappelle this volume; Kawachi this volume); however, it does represent a clearly different representation type in terms of how a Figure is expressed.[1]

It is important to note that these terms refer to types of linguistic representations and not external events. Speakers can use the Self-motion type of representation to describe events that are caused, as in (5).

(5)   *The napkin blew off the table.*

Visual emanation events can be expressed in sentences using the Self-motion type or the Caused motion type of representation, as shown in (6).

(6)   a.   *His eyes fell on her.*
       b.   *He shot a quick glance at the paper.*

In these examples, the referent of the subject or the object is described as moving. I treat the sentences in (6) as cases of Self-motion and Caused motion, respectively, since the focus in this study is on the linguistic representations of motion events, not on the events themselves. Such linguistic representations reflect the conceptualizer's construals of events.

These three types of motion event representations are very schematic and broad in coverage. A sentence can be regarded as one of the three types regardless of the complexity of the sentence or the complexity of the predicates; each type can take the syntactic forms of a complex predicate construction, serial verb construction, complex sentence structure with subordination, etc. Complex sentences like the following, for example, are regarded as Self-motion and Caused motion, respectively, even though the events described are not integrated into a simplex sentence.

(7)   a.   *He came over here, running as fast as he could.*
       b.   *I kicked it hard to send it flying across the room.*

---

1.   Most of the other types of fictive motion identified by Talmy (1996) involve Self-motion construction. Coextension path expressions such as (i) and frame-relative motion expressions such as (ii) take the form of Self-motion, in which the subject is described as moving.

   i.   *The highway runs along the shore.*
   ii.   *The scenery rushed past us.*

Finally, I consider motion sentences with or without Manner in the discussion of motion event descriptions, unlike Talmy's typology, which discusses only those sentences with Path and Manner (or another "co-event"). This means that sentences like (8) are covered in the discussion here, although there is no co-event represented.

(8)   *Bill came to my office.*

2.2   Types of path-coding devices

The proposal I wish to make here is as follows.

(9)   a.   Path-coding devices can be divided into two major types: those that are intrinsically specialized for a certain type of representation and those that are neutral.
    b.   Individual languages have preferences for using either neutral or specialized path-coding devices.

Satellites, adpositions, and case markers are generally neutral path-coding devices that can be used in all representation types. The English particle *up*, for example, can be used in any of the three types in (10).

(10)   a.   *Bill ran **up** to the top.*
    b.   *Susan tossed a ball **up** to him.*
    c.   *Kim looked **up** at the sky.*

This is also true of verb prefixes and prepositions in German (see Meex this volume), and preverbs and case markers in Hungarian (Eguchi this volume).

Verbs tend to be a specialized device. Japanese, for example, has different sets of verbs for Self-motion and Caused motion that represent the same Path (Matsumoto 1997, 2017b, 2018).

(11)   Japanese
    a.   *Taro-wa saka-o   **agar**-u*
        Taro-TOP slope-ACC ascend-NPST
        'Taro goes up a slope.'
    b.   *Taro-wa hako-o   **age**-ru*
        Taro-TOP box-ACC lift-NPST
        'Taro lifts a box.'

Some examples of such pairs of verbs are given in (12).

(12) Self-motion   Caused motion

agar(-u)	'ascend'	*age(-ru)*	'lift'
oti(-ru)	'fall'	*otos(-u)*	'cause to fall'
ori(-ru)	'descend'	*oros(-u)*	'cause to descend'
hair(-u)	'enter'	*ire(-ru)*	'cause to enter'
de(-ru)	'exit'	*das(-u)*	'cause to exit'
hanare(-ru)	'go away'	*hanas(-u)*	'cause to go away'
tikazuk(-u)	'approach'	*tikazuke(-ru)*	'cause to approach'
toor(-u)	'go through'	*toos(-u)*	'pierce'

As will be pointed out, however, verbs are not always specialized for a particular representation type: Self-motion verbs (or items derived from them) may be used as neutral path-coding devices.

I must hasten to add that Japanese does not have specialized path-coding devices for Emanation. There are no verbs representing meanings such as 'look up', 'look down', or 'look out'. In this sense, it does not have a complete set of specialized path-coding devices for all three types of representations.

Other languages have a relatively rich set of verbs of vision that code directions, though not many such languages have been found. Toba, a Guaykuruan language spoken in northern Argentina, has a few such verbs, with the meanings 'look outward', 'look up', and 'look ahead', which additionally take directional suffixes (Klein 1981). Wnuk (2016) describes a set of path-coding verbs of vision in Maniq, a Mon-Khmer language: *balay* 'look up', *pəntɛw* 'look up/straight', *ciyɛ̃k* 'look sideways', *cikiey* 'look sideways/back', *wwɛ* 'look around', *pədɛp* 'look around (of birds)', and *yɔp* 'look down'. Some languages in the Philippines also possess several path verbs of vision. Ilocano (Malayo-Polynesian), for example, has *sirip* 'look into/through', *taᶨaw* 'look back', *tanʔaw* 'look out/down', *tannawag* 'look down', *tamdag* 'look down', *saᶨat* 'look around', and *taŋad* 'look up' (K. Yamamoto, personal communication), although some of these may be more appropriately regarded as representing a change in head orientation (e.g., 'raise one's head').

2.3 Types of languages

Based on this typology of path-coding devices, I suggest that there are two idealized types of languages in terms of the preferred use of neutral vs. specialized path-coding devices.

(13) Neutral path-coding languages use neutral path-coding devices; Specialized path-coding languages use specialized path-coding devices.

Languages may not use a single type of device all the time and they may not be purely neutral path coding or specialized path coding. Each language can be characterized by how close it is to these idealized types.

Languages that are fairly close to the idealized neutral path-coding languages are not hard to find. Languages treated as satellite-framed languages are generally of this type. Satellites and adnominals (e.g. adpositions) used for all three types of representations can be found in English, German (Meex this volume), Hungarian (Eguchi this volume), and Kathmandu Newar (Matsuse this volume) among the languages treated in this volume. Hungarian and Kathmandu Newar data are given in (14) and (15), respectively.

(14) Hungarian (Eguchi 2017)
    a. *János* **be**-*rohan-t* *az irodá-**ba**.*
       John.NOM into-rush-PST.3SG the office-ILL
       'John rushed into the office.'
    b. *János* **fel**-*dob-ta* *a labdá-t az ablak-**hoz**.*
       John.NOM up-throw-PST.DEF.3SG the ball-ACC the window-ALL
       'John threw the ball up to the window.'
    c. *János* **fel**-*néz-ett* *az ablak-**hoz**.*
       John.NOM up-look-PST.3SG the window-ALL
       'John looked up at the window.'

(15) Kathmandu Newar (Matsuse 2017)
    a. *Rām kwathã̄ bwãe-bwãe* **pin-e** *wa-la.*
       Ram.ABS room.ABL running out-LOC come-PD
       'Ram came running out of the room.'
    b. *Rām-ā bhakhū̃gwara* **cwa-e** *wã̄-chway-ā ha-la.*
       Ram-ERG ball up-LOC throw-send-CM come.CAUS-PD
       'Ram threw a ball up to me.'
    c. *Rām-ā khāpā-yā pwālā* **pin-e** *swa-la.*
       Ram-ERG door-GEN hole-ABL out-LOC see-PD
       'Ram looked outside from the hole of the door.'

Languages treated as verb-framed tend to be of the specialized coding type, at least as far as Self-motion and Caused motion are concerned. Japanese, Korean, Spanish, French, and Sidaama have path verbs specialized for Self-motion and for Caused motion (see Matsumoto 1997; Im 2001; Gaytan 1998; Kawachi 2017), as exemplified by Japanese in Section 2.2.

A question may arise as to the identification of verbs as specialized for Self-motion. In many languages, verbs for Self-motion and those for Caused motion are morphologically related. Quite often causative path verbs are derived from self-motion path verbs. For example, Sidaama, a Cushitic language, has the following sets of verbs (Kawachi 2017).

(16) Sidaama
   a. *ka'-* 'rise', *dirr-* 'descend', *ful-* 'exit', *e'-* 'enter', *sa'-* 'pass', *iill-* 'arrive', *tais-* 'cross', *šikk'i y-* 'approach', *do-* 'move around'
   b. *ka-i-s-* 'cause to move up, lift', *dirr-i-s-* 'cause to move down', *fušš-* 'take out', *ee-ss-* 'put in', *sa-i-s-* 'cause to pass', *iill-i-š-* 'cause to arrive', *tais-i-s-* 'cause to cross', *šikk'i ass-* 'cause to move a little', *do-i-s-* 'surround'

Self-motion verbs such as *ka'-* may appear to be neutral devices, since they occur in Caused motion verbs as roots as well. However, as long as the roots such as *ka'-* have a Self-motion meaning such as 'rise', they are verbs specialized for Self-motion. That is why they must be causativized to be used for Caused motion. In this sense, such verbs are different from particles/prepositions, which are not (or in fact cannot be) causativized to be used for Caused motion. Thus, Sidaama does indeed have specialized forms for Self-motion and Caused motion, and the latter are morphologically derived from the former.[2]

The typology based on the distinction between neutral vs. specialized path-coding devices classifies languages into two sets that are similar to the sets identified by the typology based on path-coding positions (though, as I demonstrate soon in this section, there is not a complete match). In fact, there is a very good reason why these sets closely match each other. The Self-motion/Caused motion distinction is usually coded in the main verb position, because it is the main verb that determines the subject of the sentence. This means that if a language expresses Path in the main verb in both Self- and Caused motion, it must be a specialized path-coding language. In Talmy's typology, it is not clear why the main verb position is typologically important. In the view presented here, it is important because path-coding verbs in this position must be specialized either for Self- or Caused motion.[3]

At the same time, it is important to note that the two typologies do not pick out exactly the same sets of languages. The main verb position is not the only location in which the distinction between Self-motion and Caused motion may be indicated.

---

2. The direction of derivation between Self-motion path verbs and Caused motion path verbs is not necessarily from the former to the latter in all languages. Some Spanish path verbs such as *aproximarse* 'approach' are formed from Caused motion verbs with the addition of reflexive *se* (see Cifuentes-Férez 2010). A careful morphological analysis of the Japanese causative alternation by Matsumoto (2016) suggests that some Self-motion/Caused motion pairs are Self-motion basic (e.g. *de(-ru)* 'go out' / *d-as(-u)* 'take out'), while others are Caused motion basic (e.g. *ag-ar(-u)* 'ascend' / *age(-ru)* 'lift'), and still others are equipollent (e.g. *toor(-u)* 'go through' / *toos(-u)* 'let go through').

3. Languages can often have the same form of some verbs, called labile verbs, used as both causative and noncausative verbs (see Haspelmath 1993). It may appear that in such cases the distinction between Self-motion and Caused motion is not marked in the main verb. However, labile verbs are polysemous, and the same verb forms used in Self-motion and Caused motion can be regarded as having distinct senses.

Verbs that are specialized for Self- or Caused motion can occur both in the main verb and in an additional position. Mongolian (Mongolic) is a case in point. In this language (at least in the Khorchin dialect (Badema, personal communication)), verbal sequences are commonly used in Self-motion and sometimes in Caused motion as exemplified in (17).

(17) Khorchin Mongolian
    a. *alx-a:d   gar-dʒ   yab-dʒɛ:*
        walk-CONV exit-CONV go-PST
        'walked out that way'
    b. *gar-ga-dʒ   yab-ʋ:l-dʒɛ:*
        exit-CAUS-CONV go-CAUS-PST
        'drove (a person) out that way'

In Self-motion in (17a), a deictic verb sits in the last position with the tense marking, while the manner and path verbs precede it, both in a participle-like "converbal" form. A similar sequence can be used in Caused motion, as exemplified in (17b), but note that not just the deictic verb is causative: the path verb is causative as well (i.e. specialized path coding is used). The causative form of the path verb is required because converbs of the type used here must share their subjects with the main verb, and therefore verbs specialized for Caused motion are used both in the main verb and in a converb.

The main verb status of the deictic verbs in (17) is a matter of empirical investigation. Evidence suggests that they have main verb properties: they receive the tense marking, and have the argument structure that matches the arguments found in the sentence. This means that the path-coding converb that codes the Self-motion/Caused motion distinction in (17) is not the main verb. Mongolian is thus a specialized path-coding language, even though it does not code Path in the main verb (See Slater 2003: 182 for a similar set of data in Mangghuer (Mongolic); see also Tariana data in the next section).

A similar situation is found in Japanese and Korean, which are usually regarded as verb-framed languages (Talmy 2000). It is true that Japanese quite often codes Path in the head position if one talks of the notion of the head morphologically as well as syntactically. In (18) the path verbs occur as the last elements of the compound verbs for both Self-motion (18a) and Caused motion (18b). In the compound verbs used in (18), the last verbs are regarded as the heads of the morphological complexes (Kageyama 1994; Matsumoto 1996a), given that they determine the argument structures of the whole compounds. Note that Japanese, like Mongolian, requires that the two verbs have the same subject.

(18) Japanese
    a.   *Taro-wa kaidan-o kake-agat-ta.*
        Taro-TOP stairs-ACC run-ascend-PST
        'Taro ran up the stairs.'
    b.   *Taro-wa booru-o nage-age-ta.*
        Taro-TOP ball-ACC throw-lift-PST
        'Taro threw the ball up.'

However, a path verb can also be followed by a deictic verb in the case of Self-motion, as in (19), in which the path verb is no longer the last verb, nor does it bear tense.

(19) Japanese
    Taro-wa kaidan-o kake-agatte ki-ta.
    Taro-TOP stairs-ACC run-ascend come-PST
    'Taro came running up the stairs.'

Matsumoto (2017b, 2018) treats the deictic verb, bearing tense and occurring in the final position, as the main verb, with the result that Japanese is regarded as a *conditional* head path-coding language, because it codes Path in the main verb only in the absence of a deictic verb (assuming the separation of Path and Deixis; see Section 5). In the current typology of neutral vs. specialized coding, the status of Japanese is actually quite clear, not requiring a conditional statement. The specialized coding pattern is employed whether or not the deictic verbs are the main verb.

    Generally speaking, if a language has a shared subject requirement for a verbal complex, different path verbs are needed for Self-motion and Caused motion, regardless of the main-verb status of those verbs (see Baker and Fasola 2009: 601–602 for related data in Mapudungun, and Margetts 1999: 103–107 for Saliba). This means that the languages that code Path in nonhead verbal elements that share a subject with the head are also specialized path-coding languages.

3. The status of so-called equipollently framed languages

3.1 Jaminjung and Klamath

How is Slobin's third type treated in the current typology? This section examines those languages claimed to be of this type.

    Jaminjung (Non-Pama-Nyungan; Schultze-Berndt 2000, 2015) is a language that has been regarded as an equipollently framed language. This language has only 26 inflecting verbs, which are quite general in meaning, and much of the lexical content is expressed by a distinct lexical category often called "co-verb" in the linguistics of Northern Australian languages. These co-verbs cannot be inflected and

always co-occur with an inflecting verb.[4] Since both Manner elements and Path elements are coded in such co-verbs (see Schultze-Berndt 2015), Slobin argues that neither can be said to be in the main verb, and that Manner and Path are expressed with equal status.

Let us examine this language in our terms. One may note that the same co-verbs representing Path can be used for Self-motion and Caused motion, with the difference marked in the inflecting verb (e.g. GO, COME, FALL for Self-motion, and PUT for Caused motion). Examples include the following.

(20)   Jaminjung (Schultze-Berndt 2015: 1124, 2000: 240)
  a.   **wurlurlu** *yurra-**ngga***   *intit jarriny-gi.*
       enter   1PL.INCL-GO.PRS TAG house-LOC
       'Let's go inside the house, right?'
  b.   **wurlurlu** *ba-**rra***   *beg-gi,*   *bany*   *mindag.*
       enter   IMP-PUT bag-LOC IMP.BRING 1DU.INCL.OBL
       'Put them in a bag and bring them for you and me.'

Schultze-Berndt (2015) argues that in such cases co-verbs are monovalent, and neutral with respect to transitivity. In our terms, this means that such co-verbs are neutral in terms of representation type, suggesting that Jaminjung is a neutral path-coding language.

Another language often regarded as equipollently framed is Klamath (Penutian; DeLancey 1999, 2003). The majority of verbs in this language have a morphologically complex "bipartite stem", composed of two bound morphemes that DeLancey calls a lexical prefix and a locative-directive suffix. Lexical prefixes include instrumental prefixes, classificatory prefixes, and motion prefixes. The final two are relevant to motion event description, with the former encoding information about Figure (e.g. shape), and the latter, Manner. The locative-directive suffix represents Path (e.g. 'away'), often together with Ground (e.g. 'into water'). Slobin treats Klamath as equipollently framed, on the assumption that Manner and Path are of equal status within the verb stem.

In terms of the distinction between neutral vs. specialized path coding, the data provided by Barker (1994) and DeLancey (1999, 2003) suggest that the same locative-directive suffix can occur with various subtypes of lexical prefixes to produce the three types of motion representations. The suffix -*ew* 'in(to) water', for example, can occur with prefixes to be used for Self-motion (e.g. |hoḏ-w-| /howwa/ 'run, jump into water'), or Caused motion (e.g. |ʔᵛ-ew-| /ʔewa/ 'put a long object

---

4.   Note that the co-verbs discussed here are different from "converbs" above. A converb is a special form of a verb, while a "co-verb" as used in Australian linguistics is a verb-like category that does not inflect.

in water', |n-ot'w-w-| /not'o:wa/ 'throw a round object into water'), or Emanation (e.g. |dᵉl-w-| /delwa/ 'look into water') (see DeLancey 1999). A full discussion of Klamath (or related languages such as Atsugewi (Talmy 2009, 2016)) is beyond the scope of this chapter, but this preliminary observation suggests that it uses the neutral coding of Path.[5]

3.2 Thai and other languages with multiple verb constructions

Thai is a language that makes much use of a serial verb construction (Filbeck 1975; Thepkanjana 1986; Takahashi 2000, 2018, this volume; Muansuwan 2002; Kessakul 2005, etc.), which some have claimed lacks a single head or main verb (Takahashi 2000, 2018; see Filbeck 1975 for a differing view). In motion event descriptions, this serial verb construction can be used with a manner verb and path verbs of various types and a deictic verb in a specific order (Thepkanjana 1986; Takahashi 2000, 2018, this volume; Zlatev and Yangklang 2004).

    In the present view, Thai can be characterized as follows. The same path verbs and deictic verbs are used in the three different types of motion representations, as exemplified in (21). In terms of the nature of serial verb constructions, (21a) is a case of same-subject serializing and (21b) subject-switch serializing, while (21c) is neither, to use the terms of Crowley (2002) (cf. Aikhenvald 2006b). (Note that verbs in the serial verb construction in Thai do not require the sharing of their subjects.)

(21) Thai (based on data from Takahashi, personal communication)
      a. *cɔɔn wîŋ khûn banday pay*
          John run ascend stairs go
          'John went running up the stairs.'
      b. *[cɔɔn yoon lûuk bɔɔn] [khûn pay yaŋ nâatàaŋ]*
          John throw ball ascend go to window
          'John threw the ball up to the window.'
      c. *cɔɔn mɔɔŋ khûn pay yaŋ nâatàaŋ*
          John look ascend go to window
          'John looked up at the window.'

The use of the same verb *khûn* 'ascend' in these examples suggests that Thai employs neutral coding of Path. However, there is a slight complication, which leads us to two slightly different analyses. Given that the verb *khûn* can be used as independent verbs for Self-motion, one may regard it as intrinsically specialized for

---

5. A motion prefix creates Self-motion verbs, while a classificatory prefix creates either Self-motion, Caused motion, or locational verbs. DeLancey treats *dᵉl* 'look' for vision as an instance of a motion prefix.

Self-motion. One possibility for sentences like (21b) is that they involve Self-motion as a part of the representation of Caused motion. In fact, Takahashi (2000, this volume) claims that Thai caused motion expressions involve a verb representing a causation event, followed by a sequence of Self-motion verbs, with the object of the first verb interpreted as the subject of the subsequent verbs. If this is correct, Thai can be regarded as employing neutral path coding, using forms specialized for Self-motion in the representation of Caused motion. The difference between English and Thai involves whether the forms used for neutral path coding are identical with those specialized for Self-motion (Thai) or not (English).

The use of verbs for Emanation, as in (21c), however, is revealing and points to another analysis. Verbs subcategorize for their subjects, and this requirement is licensed in the serial verb construction when verbs are used in Self-motion and Caused motion (if the language allows subject switch in the serial verbs, through which the second verb can take the object of the first verb as its subject). In Emanation, however, the Figure of the path verb is by definition not overtly mentioned, as is true of Thai (21c). In languages in which a serial verb construction can be used to represent emanation path, either of the following holds: (1) path verbs in the construction are full Self-motion verbs but the language does not require the subject to be syntactically licensed (as Takahashi (2000) appears to assume), or (2) path verbs in the construction have in fact been grammaticalized and no longer have the grammatical property of requiring a subject. If the latter is the case, then the neutral path-coding devices are said to be *derived from* (but not identical to) verbs that are intrinsically specialized for Self-motion. In this analysis Thai is simply a language with neutral path-coding devices developed from Self-motion verbs.[6] Deciding which is correct for Thai requires further examination. In either case, however, Thai can be characterized as employing neutral coding.

The development of neutral coding from forms specialized for Self-motion is in fact a common phenomenon. Many languages have satellites and adpositions that originate in motion verbs (e.g. Aikhenvald 2006b: 32; Heine and Kuteva 2002: 117; see also Durrie 1988; Hamel 1993). Jakaltec, for example, has a set of verb suffixes that can be used in Self-motion, Caused motion, and Emanation, which appear to have derived from path verbs, as discussed by Craig (1993).

---

6. Note that while verbs subcategorize for subject, adpositions do not (Jackendoff 1977). In this respect, it is interesting that in Paamese, a serial verb in the core layer juncture construction, used to represent an emanation path, does not agree with the subject of the verb of vision (Crowley 2002: 94).

(i) *nile:le*   *he:ha*   *venik*
     1SG:DIST.FUT-look 3SG:DIST.FUT-go toward-2SG
     'I will look toward you.'

Another language often treated as equipollently framed is Mandarin Chinese (Slobin 2004). Mandarin Chinese has a number of path verbs, which can be the sole verb in a sentence, but a subset of such verbs can also function as a "directional complement" to the main verb, occurring as the second element of a compound verb (e.g. Lu 1977; Li and Thompson 1982; Lamarre 2008; Maruo 2014).[7] This subset of path verbs can be used in Self-motion, Caused motion and (to some extent) Emanation, as shown in (22).

(22) Mandarin Chinese   (Lamarre 2017, personal communication)
    a. *Lǐ Lán pǎo-shang lóu   lai   le*
        Li Lan run-ascend stairs come PRT
        'Li Lan came running up the stairs.'
    b. *Lǐ Lán bǎ qiú rēng-shang-lai   le*
        Li Lan OM ball throw-ascend-come PRT
        'Li Lan threw the ball up toward me.'
    c. *Tā cóng luò-tuó de shuāng fēng-jiān   wàng-guo-qu*
        he from camel of   two   hump-between look-cross-go
        'He looked from between the two humps of a camel.'

(See Ma 2016: 114 for more examples of fictive motion of vision in Chinese.) The use of directional complements for Emanation is somewhat restricted, especially when it is not accompanied by a preverbal prepositional path phrase. Lamarre (2017) points out that *shang* 'ascend', for example, is rarely compounded with a verb of vision.

The path verbs used as complements in (22) do not have a causative meaning when used independently, and there is no evidence suggesting that the complement in (22b), for example, is causative in meaning. Thus, these directional complements are neutral path-coding devices. (There are some causative path verbs, such as *jǔ* 'lift', but they cannot be used as directional complements.)

There is some evidence suggesting that, strictly speaking, these complements should not be treated the same as path verbs that are used independently. Only a subset of path verbs in Mandarin Chinese can function as directional complements (Li and Thompson 1981; Lamarre 2008, 2017). In addition, the directional complements are in some cases semantically different from the same forms used as main verbs (see Lamarre 2008; Talmy 2009), and must be regarded as different entities. Thus, Mandarin Chinese can be said to have neutral coding forms derived from verbs specialized for Self-motion.

---

7.   Such sentences are often discussed under the heading of serial verbs in the literature on motion event descriptions (Slobin 2004), but are usually treated as cases of compounding in Chinese linguistics.

Slobin treats Mandarin Chinese as equipollently framed on the assumption that the elements of a compound are of equal status. However, many scholars treat the first element of a compound as the head (Li 1990; Chen and Huang 1995; Packard 2000; Ceccagno and Scalise 2006; Lamarre 2008; see also Talmy 2009), which is consistent with our analysis of the second element as a complement.

One may note that the verb serializing constructions that require a shared subject necessarily have specialized devices for Self-motion and Caused motion. Aikhenvald (2006a: 186) states that in "asymmetrical" serial verb constructions in Tariana, an Arawakan language, a path verb is causativized when occurring with a causative motion verb as the first verb, as in (23b) (cf. (23a), which represents Self-motion).

(23) Tariana   (Aikhenvald 2003: 181, 2006a: 186)
   a. *di-kolola   di-ɾuku   di-a   uT-se*
       3SG.NF-roll 3SG.NF-go.down 3SG.NF-go port-LOC
       'roll down to the port'
   b. *pi-pala   pi-musu-ita*
       2SG-put 2SG-go.out-CAUS
       'take out of (something)'

In (23) all verbs in a sequence are inflected, suggesting that this language allows an equipollent pattern in terms of path-coding position. In the present typology, it is a clear example of specialized path coding.

Concluding this section, I have shown that the so-called equipollently framed languages either use neutral path coding as in Jaminjung, Klamath, Thai, and Mandarin Chinese, or specialized path coding as in Tariana. The proposed typology therefore does not necessitate an independent third type.

The discussion of Mandarin Chinese and Thai, however, does suggest that neutral path-coding languages can have Self-motion verbs, and in this sense they are not pure neutral path-coding languages. The next section explains that such cases can be characterized in terms of the coexistence of the two coding patterns.

4.   Variations of path coding within and across languages

In spite of the clear opposition of neutral vs. specialized path coding a language as a whole may adopt these two options under different circumstances. Specialized path-coding languages have neutral items as well. Japanese, for example, has case markers used to represent source, goal, and direction, as exemplified in (24).

(24) Japanese
Jon-wa   ie-kara   gakkoo-ni   hashitte it-ta.
John-TOP house-SRC school-GOAL run   go-PST
'John ran from his house to school.'

There are also local nouns such as *naka* 'inside' and *soto* 'outside', which indicate Conformation (Talmy 2000) or Region (Zlatev 2007) and can be combined with case markers to represent Vector+Conformation (e.g. TO+IN or TO+OUT), as in (25).

(25) Japanese
a. *Jon-ga   heya-no   naka-ni   hait-ta*
John-NOM room-GEN inside-GOAL enter-PST
'John went into the room.'
b. *Jon-ga   tsukue-o heya-no   soto-ni   dashi-ta*
John-NOM table-ACC room-GEN outside-GOAL exit.CAUS-PST
'John put the table outside the room.'

Such combinations of local nouns and goal/source markers are neutral devices coding some Path notions. In (25) the notions TO+IN or TO+OUT are doubly indicated, i.e. in the verb and in the combination of a local noun and a case marker.

One may wonder if such local nouns are necessary as a part of the Japanese lexicon given that they appear redundant as far as motion expressions are concerned. However, the Japanese language cannot do without such local nouns in other expressions. The local noun is the sole marker of the spatial relationship in the description of static locations, which are described in terms of local nouns plus a general locative marker *ni*, as in (26). There are no stative verbs with meanings like 'be inside'.

(26) Japanese
Booru-ga heya-no   naka-ni   aru.
ball-NOM room-GEN inside-LOC be
'The ball is inside the room.'

Thus, local nouns are necessary as a part of spatial expressions in Japanese.

The question, then, is when specialized path-coding languages use neutral coding devices in describing motion. There are interesting crosslinguistically common patterns that are examined in the next two subsections.

4.1 Variation according to the type of Path

In many languages, whether neutral or specialized devices are employed depends on the nature of the Path encoded. Consider in this respect three sets of Paths: TO/FROM, INTO/OUT, and UP/DOWN. On the basis of thirteen languages,

Matsumoto (2014, 2017c, 2018) has argued that these three sets of Paths tend to be expressed rather differently within a language. In Japanese, for example, TO and FROM tend to be expressed in adpositions, as shown in (24). Although FROM and TO can also be coded by the verb (e.g. *sar(-u)* 'leave' and *tuk(-u)* 'reach'), the choice of such verbs to indicate source/goal is far less frequent (Matsumoto 2014, 2018).

In contrast, directional Paths such as UP and DOWN are predominantly expressed in the verb, as in (27).

(27)   Japanese
Kaidan-o   {agat-ta/ori-ta}
stairs-ACC ascend-PST/descend-PST
'went {up/down} the stairs'

INTO and OUT (or the combination of Vector+Conformation TO+IN and TO+OUT) are very often doubly marked, as in (28) (see also Sinha and Kuteva 1995).

(28)   Japanese
Heya-no   {naka-ni   hait-ta / soto-ni   de-ta}.
room-GEN inside-GOAL enter-PST outside-GOAL exit-PST
'went into the room/went out of the room'

The same is true of Italian (Yoshinari 2017), in which TO(WARD) is coded in a preposition, UP in a verb, and INTO in a verb as well as a preposition.

(29)   Italian
a.   *Sta venendo **verso di** me correndo*
     is   coming toward me running
     'He is coming toward me running.'
b.   *Sta **entrando** velocemente **dentro** il   gazebo*
     is   entering   hurriedly   in(to) the gazebo
     'He is entering hurriedly into the gazebo.'
c.   *Il mio amico correndo **sale**   le   scale verso di me*
     my   friend running ascended the stairs toward me
     'My friend ascended the stairs toward me, running.'

See Wälchli and Sölling (2013) for more languages that can express INTO both in verbs and through adnominal/adverbal means.

UP/DOWN can be expressed in the verb even in some typical neutral path-coding languages such as German and Hungarian (see Eguchi this volume for Hungarian). For example, German, which is often claimed to lack path verbs (Wienold 1995), does have *fallen* 'fall' (Verkerk 2014a; see Akita and Matsumoto this volume for the use of *fall* in English). Thus, we may say that UP/DOWN are the Path categories most likely to be coded in verbs, irrespective of the general

tendency in the choice of neutral/specialized path coding. This hypothesis awaits further examination.[8]

4.2 Variation according to the type of representation

There are also tendencies of variation according to the type of representation. The degree to which specialized and neutral path coding is used partially depends on the representation type. Observations suggest that the following generalization holds: The specialized path coding tends to be more constrained as one goes from Self-motion to Caused motion to Emanation; in contrast, reliance on neutral devices tends to increase.

4.2.1 *Caused motion*

There is evidence to support the hypothesis of differential dependence on specialized path coding. For example, it can be pointed out that the use of causative path verbs for Caused motion is more restricted than the use of path verbs for Self-motion.

First, the lexical inventory of verbs coding Path is often more limited for Caused motion than for Self-motion. A clear difference in the path verb inventory for Self-motion and Caused motion is found in Mandarin Chinese and Thai. Mandarin Chinese major path verbs for Self-motion, which are also used as directional complements, do not have a causative use or any causative counterpart. There are some specific path verbs which also have causative meanings (e.g. *tuì* 'withdraw') and a few verbs specifically used as causative path verbs (e.g. *jǔ* 'raise (one's hand)'), but they are limited in number and application (Lamarre 2017). Similarly, Thai has only a few causative path verbs (e.g. *yók* 'lift' and *sày* 'put in') (Takahashi 2017).

Other languages such as Romance languages have richer sets of path verbs specialized for Caused motion than Chinese and Thai, but their inventories are again somewhat more limited than those specialized for Self-motion. Italian does not have broadly used causative verbs encoding AROUND, ACROSS, OVER, INTO, or OUT, though it has path verbs encoding these paths for Self-motion (Yoshinari 2017).[9] For INTO and OUT it instead relies on the neutral particles/preposi-

---

8. Verkerk (2014a) says that almost all Indo-European languages she examined have verbs with the meanings of 'fall', 'arrive', 'leave' and 'return', regardless of their typological types. Note, however, that Path notions such as TO and FROM, which are coded in the meanings of 'arrive' and 'leave', are also frequently coded in adpositions. What is needed is a frequency-based study comparing the use of verbs and other items to represent particular path notions.

9. There are verbs like *inserire* 'insert', but these are rather restricted in application.

tions *dentro* 'in'/*fuori* 'out', used often with the general caused motion verb *met-tere*. Similarly, French lacks general causative path verbs representing AROUND, ACROSS, OVER, or INTO, and for INTO it relies on the neutral *dans* 'in' used with verbs such as *mettre* (see Hickmann and Hendriks 2006; Morita and Ishibashi 2017). The restriction on causative path verbs can also be seen in Japanese to a lesser extent: it does not have causative counterparts of *koe(-ru)* 'go over' and *sugi(-ru)* 'go past' (Matsumoto 1997).

Second, the existing causative path verbs are often limited in the types of causation they can represent. Caused motion events can be divided into three major semantic types: co-motional, controlled, and ballistic (Matsumoto 2017a; see also Kopecka and Narasimhan 2012). Co-motional caused motion involves a causer moving together with the moved entity, as in carrying a bag or accompanying someone. Controlled caused motion involves an unmoving person continuously causing something to move, as in using your hand to move a cup. Ballistic caused motion involves a causer acting on something which then starts to move on its own, as in throwing a ball. Some Spanish causative path verbs are restricted to co-motional and controlled types. Gaytan (1998: 506) points out that at least in his Guatemalan dialect the causative *sacar* 'take out' cannot be used for ballistic caused motion events (his "launching causation"), as in (30a). Instead, a sentence like (30b) is used, with the use of the neutral device *por*.

(30) Spanish
    a. **Beth sacó   la pelota por   la   ventana tirandola.*
        Beth took.out the ball   through the window throwing
    b. *Beth tiró   la pelota por   la ventana.*
        Beth threw the ball   through the window
        'Beth threw the ball out the window.'

Gaytan (1999) states that the sentence in (30a) would be acceptable without the participle in the reading of co-motional causation (see also Gaytan's (1998: 263–264, 285) observations concerning the causative meanings of *subir* 'raise' and *bajar* 'take down').

A similar observation has been made of Italian causative path verbs. Yoshinari (2017) observes that *sollevare* 'lift' can be used to represent controlled causation, as in (31a), but not ballistic causation, leading to the use of a neutral device *su* in (31b) (data from Fabiana Andreani).

(31) Italian
    a. *Ha sollevato il   bicchiere al   suo viso.*
        has lifted   the glass   to.the his face
        'He lifted the glass to his face.'

b. *Gianni ha lanciato su la palla.*
John has thrown up the ball
'John threw the ball up.'

The few causative path verbs in Mandarin Chinese, such as *jŭ* 'raise', can also only represent controlled caused motion, typically referring to the motion of one's own body parts (Lamarre 2017). Thai *yók* 'lift' and *sày* 'put in' can likewise only be used for controlled caused motion (Takahashi 2017).

In other languages, some causative path verbs are restricted to co-motional caused motion, as has been observed by Kazama (2015) in the Tungusic language Nanai. In this language, a causativizing suffix *-bo/-bu/-wo/-wu* is placed on path verbs such as *ii-* 'enter (a house)', and *too-* 'go away from a river toward a mountain', to produce such verbs as *ii-wu-* 'take into (a house)', and *too-bo* 'carry something away from a river toward a mountain'. Caddo (Caddoan) has a special "portative prefix" which is attached to a motion verb to derive the meaning of 'carry' (Chafe 2017: 594).

In Japanese, causative path verbs alone cannot be easily used for ballistic caused motion events. However, they can occur as the second verb of a compound used to represent such events (Matsumoto 1998, 2017b).

(32) Japanese
Jon-ga booru-o nage-age-ta.
John-NOM ball-ACC throw-lift-PST
'John threw the ball up.'

It is perhaps because of this broader use of causative path verbs in Japanese that in the frequency study of Morita and Ishibashi (2017) Japanese speakers used more causative path verbs than French speakers to describe the same events.

4.2.2 *Emanation*

Most languages that I have been able to examine have no specialized path coding for Emanation, relying totally on neutral devices to express emanation paths. In Spanish, emanation paths can be indicated as follows, with the use of neutral items (Matsumoto 2004; Cifuentes-Férez 2014).

(33) Spanish
a. *Miré arriba, al cielo*
looked.1SG up to.the sky
'I looked up at the sky'
b. *Miré por el agujero*
looked.1SG through the hole
'I looked through the hole'

Kawachi (this volume) also points out that Sidaama speakers do not code Path in the verb with Emanation, unlike Self-motion and Caused motion, and they use other means to indicate visual path (e.g. 'She turned to the inside of the house, and looked').

One way to keep Path in verbs describing vision events is to resort to a Caused motion representation, as pointed out by Cappelle (this volume) in French (e.g. *lever* le regard 'raise one's gaze'). Note, however, that such expressions are not considered to be cases of Emanation as a representation type.

In other languages, verbs of vision are transitive verbs and Path is not clearly expressed. This is the case with Japanese and Korean, exemplified by the Japanese example in (34). In this example, a local noun *soto* 'outside' is used to indicate the location of the visual target.

(34)   Japanese
       mado-no   soto-o   mi-ta.
       window-GEN outside-ACC look-PST
       'looked out the window (looked at the outside of the window)'

Japanese and Korean have special means to describe emanation path, using path-coding verbs without an overtly coded Figure, maintaining the Emanation constructional type. For some kinds of paths, Japanese and Korean can use verbs specialized for Caused motion compounded with a verb of vision, as shown in the Japanese example in (35) (Matsumoto 2004).[10]

(35)   Japanese
       Boku-wa sora-o   mi-age-ta.
       I-TOP   sky-ACC look-lift-PST
       'I looked up at the sky.'   (Matsumoto 2004)

The verb used in this sentence is a compound verb, with the verb of looking as the V1 and causative path verb as V2. The verb as a whole takes the entity seen (e.g. the sky in (35)) as its object argument, with the argument structure of the whole identical to that required by V1. This is an atypical pattern in Japanese compounding (Kageyama 1994; Matsumoto 1996a, 1998). This allows the object (theme) of the V2 (i.e. glance) to be unexpressed, resulting in the Emanation constructional type, in which no moving entity is expressed syntactically. Other similar verbs are listed in (36).

---

10. Aikhenvald (2006a: 186) notes that in Tariana the verb of vision occurs with a causative path verb in one type of serial verb construction, as in (i), although in another type of serial verb construction it occurs with a path verb for Self-motion.

(i)   *di-ka   di-ɾuku-ita*
      3SG.NF-see 3SG.NF-go.down-CAUS
      'He looked down (at something)'

(36) Japanese
mi-age(-ru) (look-lift) 'look up', *mi-oros(-u)* (look-cause.to.descend) 'look down',
mi-yar(-u) (look-give) 'look toward', *mi-watas(-u)* (look-cause.to.cross) 'look
out over', *nozoki-kom(-u)* (peep-cause.to.enter) 'look into'

Korean has a similar pattern, except that the causative path verb is used as V1
(Sohn 1999), as shown in (37). Such compounds are listed in (38). These involve the
"transferentive" complementizer *-eta*.

(37) Korean
wuli-nun tongkwul sok-ul   tuly-eta   po-ass-ta.
We-TOP   cave   inside-ACC put.in-TRF look-PST-DEC
'We looked into the cave.'   (Sohn 1999: 380)

(38) *chey-eta pota* (lift-TRF see) 'look up', *nayly-eta pota* (lower-TRF see) 'look down',
nay-(e)ta pota (take.out-TRF see) 'look out', *tuly-eta pota* (put.in-TRF see) 'look
in', *tol-ata pota* (turn-TRF see) 'look around'

There are a few things to be said of these examples. First, the choice of causative
path verbs rather than Self-motion path verbs in Japanese and Korean is consistent
with the nature of visual emanation. The subject of the verb of vision is the sender
of a glance, and therefore the subject *causes* the glance to go along an emanation
path. Given that in the two languages the subjects of the complex verbs must be
shared, it is natural that causative path verbs would be used.

Second, the use of such verbs to represent Path in Emanation is much less com-
mon than the use of path verbs in Self-motion and Caused motion. In Matsumoto's
(2017b) corpus study of Japanese, Path was indicated in the compound verb in only
41% of the examples of Emanation, as opposed to 63% in Self-motion.

As pointed out above, some languages do have specialized path-coding means
for Emanation. Maniq, for example, has a set of vision verbs encoding Path.
However, Wnuk (2016) points out that the Path categories encoded by those verbs
are restricted in comparison with those encoded by path verbs for Self-motion,
a pattern consistent with the hypothesized tendency. Wnuk notes that boundary
crossing Path categories like INTO and OUT, which are coded in the path verbs
for Self-motion, are not coded in the path verbs for vision.[11] Ilocano has a richer

---

11. Wnuk speculates that this may be related to the irrelevance of change of state in visual path.
Visual path does not lead to change of the state of the moving entity, unlike how a person going
into a room undergoes a change. She states that path verbs are associated with such state changes,
and that visual path does not fit this tendency of verbs coding Path. However, directions such
as UP and DOWN are the Path categories most likely to be encoded in the meaning of verbs in
Self-motion and Caused motion, and Wnuk's observation may suggest that the same may be true
of Emanation.

set including verbs for INTO and OUT paths, but it lacks those for ACROSS and PAST, which are coded in the path verbs for Self-motion.

As for the relative richness of path verbs specialized for Caused motion and for Emanation, we may similarly hypothesize that there are more of the former than the latter. This would require a close study in languages like Maniq and Ilocano. Kruspe et al. (2015) state that Northern Aslian languages like Maniq have causative-forming affixes and so it would not be a surprise if Maniq had a rich set of causative path verbs. Ilocano has various verb forms based on its focus system, and most path verbs (in Actor-focus and Locative-focus forms) have causative counterparts in the "conveyance-focus form" (Yamamoto, personal communication; see Rubino 2005 for verb forms in Ilocano). Verbs in these languages need to be examined more closely to confirm the proposed hypothesis.

The fact that visual emanation does not tend to have Path expressed in the verb calls for explanation. The relative scarcity of path-coding vision verbs can be attributed to the need to keep a lexicon to a reasonable size. If a language had different sets of path verbs for all emanation processes, which include not just vision but also various kinds of sound and light emissions (e.g. *shout across, shine into*), it would create a very large lexical system. In contrast, if languages can combine verbs of vision with some means to indicate Path (e.g. compounding in Japanese, the use of neutral devices in Spanish), that suffices.

4.3   Gradience based on a two-way opposition

Given the tendencies observed above, one may say that languages can be characterized in terms of how consistently they adhere to either neutral path coding or specialized path coding. There are languages that very consistently use neutral path-coding devices for all representation types, except for a certain path such as vertical path (e.g. German and Hungarian); there are also languages that use specialized path-coding devices relatively consistently for Self-motion and Caused motion (e.g. Japanese and Spanish), some even possessing those specialized for Emanation (Maniq). Between these two poles are languages that mix the two patterns: predominantly neutral path-coding languages that have specialized path-coding devices for Self-motion (e.g. Mandarin Chinese and Thai) and predominantly specialized path-coding languages that resort to neutral means more widely than others (e.g. Italian). Note that in this view, no independent third type is assumed; intermediate cases are recognized in terms of how widely the two coding patterns are employed across the representations of different situations.

5.   Coding of Deixis

5.1   Independence of Deixis

Another important observation made in this chapter concerns the status of Deixis. Deixis is conceptually a property of a trajectory, composed of a Path schema and a special Ground (e.g. TOWARD THE SPEAKER). Deixis is often treated as a component of Path (Talmy 2000), but in its linguistic representation it is often independent of such Path notions as direction (e.g. UP), vector (e.g. TO), and vector+conformation (e.g. INTO). Deixis is often expressed in a morphological and syntactic slot different from Path: it occupies a special position in the sequence of verbs in Thai (e.g. Thepkanjana 1986; Takahashi 2017, this volume), Mandarin Chinese (e.g. Li and Thompson 1981; Lamarre 2008), Burmese (Lizogub 1992), Japanese (e.g. Matsumoto 1996b, 1997), Korean (Sohn 1999; Im 2001), Tok Pisin (Verhaar 1995), and Sidaama (Kawachi 2017). It also occupies a special morphological slot in the verbal affixes in German (e.g. Dewell 2015; Meex this volume), Jakaltec (Craig 1993), and Kupsapiny (Kawachi 2014). In some cases, the positions of Deixis and Path categories are drastically different. Matsuse (this volume) shows that Path in Kathmandu Newar (Tibeto-Burman) is generally expressed by case markers, postpositions, locational adverbs, and verbal prefixes (Hargreaves 2004; Matsuse this volume),[12] but Deixis is expressed in the main verb in Self-motion and Caused motion, as exemplified in (39).

(39)   Kathmandu Newar
    a.   *pāsā   sata: **dune** bwā̃:e   **wa-la***
        friend rest.house into run   come-PD
        'My friend came running into the rest house.'
    b.   *pāsā̃:   satal-e   **dune** ji thāe-e   bhakū:gwārā*
        friend.ERG rest.house-LOC into 1SG position-LOC ball
        *thwān-ā **ha-la***
        kick-CM cause.to.come-PD
        'My friend kicked the ball into the rest house to me.'

---

12. As pointed out by Matsuse (this volume) and Hargreaves (2004), some adverbs in this language are unusual in occurring only with Self-motion deictic verbs, or with causative motion verbs and vision verbs. However, the most frequently used type of adverb (marked with a locative) occurs with both self-motion verbs and caused motion verbs.

In Hungarian (Eguchi this volume), Path is expressed in a variety of neutral devices, but Deixis can be expressed in the verb, as well as in preverbs and case-marked pronominals, as in (40).

(40) Hungarian
Erika   ***ide-jö-tt***   ***hozzá-m.***
Erica.NOM   hither-come-PST.3SG   ALL-1SG
'Erica came this way to me.'

Gaagudju (Harvey 2002: 223–231) and Hausa (Newman 2000) have path verbs used in the main verb position, but lack deictic verbs. Instead, verbal affixes are used to mark Deixis. Large-scale surveys of languages conducted by Wälchli and Sölling (2013) and Verkerk (2014) suggest that there is only a weak correlation between the size of path verb inventory and the existence of deictic verbs.

These pieces of evidence show that Path and Deixis can be quite different in terms of their coding patterns (see also Matsumoto et al. 2017). Such observations motivate an examination of Deixis independently of Path from the perspective of the typology proposed in this chapter.

5.2 Neutral and specialized coding for Deixis

Just as is the case for Path, we can see that some languages prefer specialized expressions of Deixis for Self-motion and Caused motion, while other languages prefer neutral expressions. Many languages including English, Hungarian (Eguchi this volume), Kathmandu Newar (Matsuse this volume), Sidaama (Kawachi 2017), Mongolian (Badema, personal communication) and Mangghuer (Slater 2003) have different sets of deictic verbs for Self-motion and Caused motion (i.e. specialized coding). In some languages like Newar, causative deictic verbs are used for a wide range of caused motion events, including ballistic causation, as in the Newar example in (39b) (see also Slater 2003: 177 for Mangghuer).

Other languages use deictic verbs as neutral devices to express Deixis in multi-verbal constructions. Thai and Mandarin Chinese use the same deictic verbs in all representational types of motion events (i.e., Self-motion, Caused motion and Emanation), as in the examples from Thai in (21) and Mandarin Chinese in (22). This can also be seen in the serial verb constructions in Sranan (Creole; Sebba 1987: 45–46), Tok Pisin (Creole; Verhaar 1995: 99–102), Bislama (Creole; Crowley 2004: 167–169), and Loniu (Oceanic; Hamel 1993).

The neutral use of deictic verbs, however, is often not found in the representation of Emanation. In the Kwa language Akan, deictic verbs can be used in a serial verb construction for Self-motion and Caused motion (see Afreh and Osam 2011; Ameka and Essegbey 2013; Koga 2016), but no such use is found with Emanation

(Koga, personal communication): while (41a) and (41b) are acceptable, (41c) cannot be interpreted as indicating an emanation path. Presumably deictic verbs in this language have not been grammaticalized as those in Mandarin Chinese and Thai have.[13]

(41) Akan

    a. *Pàpá nó   nànté kɔ̀-ɔ̀   fí!é.*
       man DEF walk go-PST house
       'The man walked home.'

    b. *ɔ̀=tó-ó   bóɔ́   kɔ̀-ɔ̀   nì=fí!é   mú.*
       3SG=throw-PST stone go-PST 3SG.POSS=house inside
       'S/he threw a stone into his/her house.'
       (lit. 'S/he threw a stone, it went into his house.')

    c. *Pàpá nó   hwɛ́ kɔ̀-ɔ̀   fí!é.*
       man DEF look go-PST house
       'The man looked (at something), and went into the house.'
       '*The man looked into the house.'

Some languages, such as Russian, Polish, and Tagalog, have no deictic verb roots at all (Verkerk 2014b, N. Nagaya, personal communication). They rely totally on such neutral devices as adpositional phrases to express Deixis, as in the Russian examples in (42).

(42) Russian   (Bordilovskaya, personal communication)

    a. *Drug pod-bejal **ko mne.***
       Friend to-run.PST to me
       'My friend ran to me.'

    b. *Drug pnul   myach **ko mne.***
       Friend kick.PST ball   to me
       'My friend kicked a ball to me.'

When there is a split within a language, the specialized Deixis coding tends to be more constrained as one goes from Self-motion to Caused motion to Emanation. Deictic coding specialized for Self-motion is more widely found than for Caused motion. Many languages employ specialized deictic coding for the former but not for the latter, possessing deictic verbs but no (lexical) causative deictic verbs. This is the case with Japanese (Matsumoto 1997, 2017b), Korean (Choi and Bowerman 1991), Mandarin Chinese (Lamarre 2008), Thai (Takahashi 2017, this volume), Dom (Trans New Guinea; Tida 2017), French (Morita and Ishibashi 2017), and Italian

---

13. Note that in this language all of the verbs in the serial verb construction exhibit inflection, though the first verb may drop it (Osam 1997).

(Yoshinari 2017). Thai and Mandarin Chinese use deictic verbs for Self-motion as a serial verb or as a directional complement to represent Deixis in Caused motion, as in (21b) and (23b).

Some languages have deictic expressions specialized for Caused motion whose use is limited to a certain type of caused motion events. Hungarian (Eguchi this volume) has different deictic verbs for Self-motion and Caused motion, but those for the latter are restricted to descriptions of co-motional caused motion, and cannot be used for ballistic or controlled caused motion. A Hungarian example of a causative deictic verb is given in (43) (Eguchi this volume).

(43) Hungarian
Erika   ***ide-hoz*-ta**   ***nek-em* *a*   *könyv-et.*
Erica.NOM hither-bring-PST.3SG.DEF DAT-1SG the book-ACC
'Erica brought the book here to me.'

English *bring/take* are similar in this respect to the deictic verbs in Hungarian. In some English dialects, however, *bring* and *take* do not show a contrast in terms of Deixis (Hockett 1990) and those dialects can be said to lack causative deictic verbs.

Where causative deictic verbs are not available, neutral means are employed. Hungarian (Eguchi this volume), for example, has neutral expressions for Deixis, preverbs/adverbs *ide-* 'hither', *oda-* 'thither', and case-marked pronominals such as *nek-em* (Dative + 1SG) and *hozzá-m* (Allative + 1SG). These are used across different types of motion event representations, and are the only option for expressing ballistic caused motion and emanation, as in (44) (cf. (40), (43)).

(44) Hungarian
a. *Erika*   ***ide*-dob-ta**   ***nek-em* *a*   *labdá-t.*
Erica.NOM hither-throw-PST.3SG.DEF DAT-1SG the ball-ACC
'Erica threw the ball to me.'
b. *Erika*   ***ide*-néz-ett**   ***hozzá-m.*
Erica.NOM hither-look-PST.3SG ALL-1SG
'Erica looked toward me.'

I know of no language in which Deixis is expressed in a verb that represents a visual emanation. Languages with verbs of vision coding several Path categories do not seem to have deictic verbs of vision. Maniq and Ilocano, for instance, appear to lack a verb with the meaning of 'look toward the speaker' (Wnuk, personal communication; Yamamoto, personal communication).

The discussion above suggests that Path and Deixis exhibit a common tendency to shift in that the use of specialized expressions is most widely found for Self-motion, and least so for Emanation. At the same time, within a single language

the same pattern is not necessarily exhibited for both Path and Deixis. Newar, for example, can be characterized as employing neutral coding for Path but specialized coding for Deixis. As an illustration, the patterns exhibited by Newar and Mandarin Chinese are given in Tables 1 and 2.

Table 1. Newar expressions of Path and Deixis

Representation type	Path and Deixis forms			
	Path		Deixis	
	Specialized forms	Neutral forms	Specialized forms	Neutral forms
Self-motion	restricted (V)	common (P, Adv, VPref)	common (V)	exist but not used often
Caused motion	absent		common (V)	
Emanation	absent		absent	

Table 2. Chinese expressions of Path and Deixis

Representation types	Path and Deixis forms			
	Path		Deixis	
	Specialized forms	Neutral forms	Specialized forms	Neutral forms
Self-motion	common (V)	common (Dir. Comp, P)	common (V)	common (Dir. Comp, PP)
Caused motion	restricted (V)		absent	
Emanation	absent		absent	

6. Concluding remarks

The present chapter has argued that path-coding devices can be classified based on their neutrality or specialization for the three types of motion event representations: Self-motion, Caused motion, and Emanation. Languages can be characterized in terms of how predominantly they use neutral or specialized path coding. This typology classifies languages in terms of two opposing poles, and no need exists for an independent third type. It nicely captures the patterns of intralinguistic variation in terms of the coexistence of two (rather than three) coding patterns. There are crosslinguistically common tendencies in the use of specialized coding, which is most widely available for Self-motion and least widely for Emanation, within and across languages. A similar tendency is found for the coding of Deixis. However, Deixis can exhibit a different pattern from Path within a single language, suggesting the need for the separation of the two. These findings call for the examination of other languages for further verification of the tendencies found.

Acknowledgements

Abbreviations

ACC	accusative	NF	non-feminine
ALL	allative	NOM	nominative
CAUS	causative	NPST	non-past
CONV	converb	OBL	oblique
CM	concatenative	OM	object marker
DEC	declarative	PL	plural
DEF	definite	POSS	possessive
DIST	distal	PRS	present
DU	dual	PRT	particle
ERG	ergative	PST	past
FUT	future	SG	singular
GEN	genitive	SRC	source
ILL	illative	TOP	topic
INCL	inclusive	TRF	transferentive
LOC	locative		

Funding information

References

Afreh, E. S. & Osam, E. K. 2011. The expression of path in motion events in Akan. Paper presented at International Conference of Cognitive Linguistics, Xian, China.

Aikhenvald, A. 2003. *A grammar of Tariana, from northwest Amazonia*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781107050952

Aikhenvald, A. 2006a. Serial verbs constructions in Tariana. In A. Aikhenvald & R. M. W. Dixon (Eds.), *Serial verb constructions: A cross-linguistic typology* (178–201). Oxford: Oxford University Press.

Aikhenvald, A. 2006b. Serial verbs constructions in typological perspective. In A. Aikhenvald & R. M. W. Dixon (Eds.), *Serial verb constructions: A cross-linguistic typology* (1–68). Oxford: Oxford University Press.

Ameka, F., & Essegbey, J. 2013. Serialising languages: Satellite-framed, verb-framed or neither. *Ghana Journal of Linguistics*, 2(1), 19–38.

Baker, M., & Fasola, C. 2009. Araucanian: Mapudungun. In R. Lieber & P. Štekauer (Eds.), *The Oxford handbook of compounding* (594–608). Oxford: Oxford University Press.

Barker, M. A. R. 1964. *Klamath grammar* (University of California Publications in Linguistics 32). Berkeley/Los Angeles: University of California Press.

Beavers, J., Levin, B., & Tham, S.-W. 2010. The typology of motion verbs revisited. *Journal of Linguistics*, 41, 331–377. https://doi.org/10.1017/S0022226709990272

Blomberg, J. 2014. *Motion in language and experience: Actual and non-actual motion in Swedish, French and Thai* (Travaux de l' Institut de Linguistique de Lund, Vol. 53): The Faculties of Humanities and Theology, Lund University.

Cappelle, B. This volume. Looking into visual motion expressions in Dutch, English and French: How languages stick to well-trodden typological paths.

Ceccagno, A., & Scalise, S. 2006. Classification, structure and headedness of Chinese compounds. *Lingue e Linguaggio*, 2, 233–260.

Chafe, W. 2017. Caddo. In M. Fortescue, M. Mithun, and N. Evans (Eds.), *The Oxford handbook of polysynthesis* (583–602). Oxford: Oxford University Press.

Chen, L. L.-S., & Huang, C.-T. J. 1995. On the argument structure of resultative compounds. In M. Chen & O. Tzeng (Eds.), *In honor of William Wang: Interdisciplinary studies on language and language change* (187–221). Taipei: Pyramid Press.

Choi, S., & Bowerman, M. 1991. Learning to express motion events in English and Korean: The influence of language-specific lexicalization patterns. *Cognition*, 41, 83–121. https://doi.org/10.1016/0010-0277(91)90033-Z

Cifuentes-Férez, P. 2010. The semantics of the English and Spanish motion verb lexicons. *Review of Cognitive Linguistics*, 8, 233–271. https://doi.org/10.1075/rcl.8.2.01cif

Cifuentes-Férez, P. 2014. A closer look at Paths of vision, Manner of vision and their translation from English into Spanish. *Languages in Contrast*, 14(2), 214–250. https://doi.org/10.1075/lic.14.2.03cif

Craig, C. G. 1993. Jakaltek directionals: Their meaning and discourse function. *Languages of the World*, 7, 23–36.

Croft, W., Barðdal, J., Hollmann, W., Sotirova, V., & Taoka, C. 2010. Revising Talmy's typological classification of complex events. In H. Boas (Ed.), *Contrastive construction grammar* (201–235). Amsterdam & Philadelphia: John Benjamins. https://doi.org/10.1075/cal.10.09cro

Crowley, T. 2002. *Serial verbs in Oceanic: A descriptive typology*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198241355.001.0001

Crowley, T. 2004. *Bislama reference grammar*. Honolulu: University of Hawai'i Press.

DeLancey, S. 1999. Lexical prefixes and the bipartite stem construction in Klamath. *International Journal of American Linguistics*, 65, 56–83. https://doi.org/10.1086/466376

DeLancey, S. 2003. Location and direction in Klamath. In E. Shay & V. Seibert (Eds.), *Motion, direction, and location in language* (59–90). Amsterdam: John Benjamins. https://doi.org/10.1075/tsl.56.08del

Dewell, R. B. 2015. *The semantics of German verb prefixes*. Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.49

Durie, M. 1988. Verb serialization and "verbal-prepositions" in Oceanic languages. *Oceanic Linguistics*, 27, 1–23. https://doi.org/10.2307/3623147

Fagard, B., Stosic, D. & Cerruti, M. 2017. Within-type variation in Satellite-framed languages: The case of Serbian. *Language Typology and Universals*, 70, 637–660.

Filbeck, D. 1975. A grammar of verb serialization in Thai. In J. G. Harris & J. R. Chamberlain (Eds.), *Studies in Tai linguistics: In honor of William J. Gedney* (112–129). Bangkok: Central Institute of English Language, Office of State Universities.

Fortis, J.-M. & Vittrant, A. 2016. Path-expressing constructions: Toward a typology. *Language Typology and Universals*, 69, 341–74. https://doi.org/10.1515/stuf-2016-0015

Gaytan, E. H. 1998. A study of path: The semantics of English and Spanish dynamic prepositions and motion and manner verbs. Ph.D. dissertation, University of Chicago.

Goldberg, A. 1995. *Constructions: A construction grammar approach to argument structure*. Chicago: The University of Chicago Press.

Gruber, J. S. 1967. *Look* and *see*. *Language*, 43(4), 937–947. https://doi.org/10.2307/411974

Hamel, P. J. 1993. Serial verbs in Loniu and an evolving preposition. *Oceanic Linguistics*, 32, 111–132. https://doi.org/10.2307/3623099

Hargreaves, D. 2004. Directional prefixes in Kathmandu Newar. In A. Saxena (Ed.), *Himalayan languages: Past and present* (273–284). Berlin & New York: Mouton de Gruyter. https://doi.org/10.1515/9783110898873.273

Harvey, M. 2002. *A Grammar of Gaagudju*. Berlin: De Gruyter Mouton.

Haspelmath, M. 1993. More on the typology of inchoative/causative verb alternations. In B. Comrie & M. Polinsky (Eds.), *Causatives and Transitivity* (87–120). Amsterdam & Philadelphia: Benjamins. https://doi.org/10.1075/slcs.23.05has

Heine, B., & Kuteva, T. 2002. *World lexicon of grammaticalization*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511613463

Hickmann, M., & Hendriks, H. 2006. Static and dynamic location in French and English. *First Language*, 26, 103–135. https://doi.org/10.1177/0142723706060743

Hijazo-Gascón, A., & Ibarretxe-Antuñano, I. 2013. Same family, different path: Intratypological differences in three Romance languages. J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the encoding of motion events* (39–54). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.02hij

Hockett, C. F. 1990. *Bring, take, come*, and *go*. *Journal of English Linguistics*, 23, 239–244. https://doi.org/10.1177/0075424290023001-219

Huumo, T. 2010. Is perception a directional relationship? On directionality and its motivation in Finnish expressions of sensory perception. *Linguistics*, 48, 49–97. https://doi.org/10.1515/ling.2010.002

Iacobini, C., & Masini, F. 2006. The emergence of verb-particle constructions in Italian: Locative and actional meanings. *Morphology*, 16, 155–188. https://doi.org/10.1007/s11525-006-9101-7

Ibarretxe-Antuñano, I. 2017. Motion and semantic typology: A hot old topic with exciting caveats. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages: Theory and applications* (13–36). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.02iba

Ibarretxe-Antuñano, I., & Hijazo-Gascón, A. 2012. Variation in motion events: Theory and applications. In L. Filipović & K. M. Jaszczolt (Eds.), *Space and time in languages and cultures: Linguistic diversity* (349–371). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.36.19iba

Im, S.-C. 2001. Typological patterns of motion verbs in Korean. Ph.D. dissertation, University at Buffalo, State University of New York.

Jackendoff, R. 1977. *X-bar syntax: A study of phrase structure*. Cambridge, MA: MIT Press.

Kageyama, T. 1994. *Bunpo to gokeisei* [Grammar and word formation]. Tokyo: Hituzi.

Kawachi, K. 2014. Patterns of expressing motion events in Kupsapiny. In O. Hieda (Ed.), *Recent advances in Nilotic linguistics* (Studies in Nilotic linguistics Vol. 8) (103–136). Tokyo: Research Institute for Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.

Kawachi, K. 2017. Shidaama-go no kuukan-idoo no keiro no hyoogen [Expressions of the path of spatial motion in Sidaama]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (213–246). Tokyo: Kurosio.

Kawachi, K. This volume. Different patterns of expressing motion, agentive motion, and visual motion in Sidaama: Discussion of a possible reason.

Kazama, S. 2015. Tsunguusu-shogo no jita ni tsuite [Transitivity in Tungusic languages]. In P. Pardeshi, K. Kiryū, & H. Narrog (Eds.), *Yuu-tsui-dōshi no tsūgengoteki-kenkyū: Nihongo to shogengo no taishō kara mietekuru mono* (91–107). Tokyo: Kurosio.

Kessakul, R. 2005. The semantic structure of motion expressions in Thai. Unpublished Ph.D. dissertation, The University of Tokyo.

Klein, H. M. 1981. Location and direction in Toba: Verbal morphology. *International Journal of American Linguistics*, 47, 227–235. https://doi.org/10.1086/465691

Koga, K. 2016. Event integration in Akan. *Asian and African Languages and Linguistics*, 10, 179–195.

Kopecka, A. 2004. Étude typologique de l'expression de l'espace: Localisation et déplacement en français et en polonais. Ph.D. dissertation, Université Lumière Lyon 2.

Kopecka, A., & Narasimhan, B. (Eds.). 2012. *Events of putting and taking: A crosslinguistic perspective*. Amsterdam: John Benjamins. https://doi.org/10.1075/tsl.100

Kruspe, N., Burenhult, N., & Wnuk, E. 2015. Northern Aslian. In M. Jenny & P. Sidwell (Eds.), *The handbook of Austroasiatic languages, Volume 1* (419–474). Leiden: Brill.

Lamarre, C. 2008. The linguistic categorization of deictic direction in Chinese: With reference to Japanese. In D. Xu (Ed.), *Space in languages of China: Cross-linguistic, synchronic and diachronic perspectives* (69–97). Springer Science+Business Media. https://doi.org/10.1007/978-1-4020-8321-1_4

Lamarre, C. 2017. Chuugokugo no idoo-hyoogen. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (95–128). Tokyo: Kurosio.

Li, C. N., & Thompson, S. A. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley & Los Angeles: University of California Press.

Li, Y. 1990. On V-V Compounds in Chinese. *Natural Language and Linguistic Theory*, 8, 177–207. https://doi.org/10.1007/BF00208523

Lizogub, S. I. 1992. Syntax of verbs of motion in Burmese. In S. Luksaneeyanawin (Ed.), *Pan-Asiatic linguistics: The third international symposium on language and linguistics, Bangkok, Thailand* (187–197). Chulalongkorn University.

Lu, J. H. T. 1977. Resultative verb compounds versus directional verb compounds in Mandarin. *Journal of Chinese Linguistics*, 5, 276–313.

Ma, S. 2016. Fictive motion in Mandarin Chinese: A corpus-based study of coextension paths. Ph.D. thesis, University of Auckland.

Margetts, A. 1999. Valence and transitivity in Saliba, an Oceanic language of Papua New Guinea. Dissertation, MPI.

Maruo, M. 2014. *Gendai-chuugokugo hookoo-hogo no kenkyu* [Studies in directional complements in Modern Chinese]. Tokyo: Hakuteisha.

Matsumoto, Y. 1996a. *Complex predicates in Japanese: A syntactic and semantic study of the notion 'word'*. Stanford: CSLI Publications & Tokyo: Kurosio Publishers.

Matsumoto, Y. 1996b. Subjective motion and English and Japanese verbs. *Cognitive Linguistics*, 7, 183–226. https://doi.org/10.1515/cogl.1996.7.2.183

Matsumoto, Y. 1997. Kuukan-idoo no gengo-hyoogen to sono kakutyoo [Linguistic expressions of motion in space and their extensions]. In S. Tanaka & Y. Matsumoto *Kuukan to idoo no hyoogen* [Expressions of space and motion] (125–230). Tokyo: Kenkyusha.

Matsumoto, Y. 1998. Nihongo no goiteki-fukugoo-dooshi ni okeru dooshi no kumiawase [Combinatory possibilities in Japanese V-V lexical compounds]. *Gengo Kenkyu: The Journal of the Linguistic Society of Japan*, 114, 37–83.

Matsumoto, Y. 2001. *Lexicalization patterns and caused and fictive motion: The case of typological split*. Handout for a lecture at SUNY Buffalo, NY.

Matsumoto, Y. 2003. Typologies of lexicalization patterns and event integration: Clarifications and reformulations. In S. Chiba et al. (Eds.), *Empirical and theoretical investigations into language: A festschrift for Masaru Kajita* (403–417). Tokyo: Kaitakusha.

Matsumoto, Y. 2004. Nihongo no shikaku-hyoogen ni okeru kyokoo idoo [Fictive motion in Japanese expressions of vision]. *Nihongo Bunpo*, 4, 111–128.

Matsumoto, Y. 2014. Common tendencies in the descriptions of manner, path and cause across languages: A closer look at their subcategories. Paper presented at Langacross 2 (Linguistic diversity and cognition: implications for first and second language acquisition), June 21, 2014, Université Lille 3, France.

Matsumoto, Y. 2016. Phonological and semantic subregularities in noncausative- causative verb pairs in Japanese. In T. Kageyama & W. Jacobsen (Eds.), *Valency and transitivity alternations: Studies on Japanese and beyond* (51–88). Berlin: Mouton. https://doi.org/10.1515/9783110477153-003

Matsumoto, Y. 2017a. Idoo-hyoogen no ruikei ni kansuru kadai [Issues concerning the typology of motion event descriptions]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (1–24). Tokyo: Kurosio.

Matsumoto, Y. 2017b. Nihongo ni okeru Jishoo-hyoogen-taipu to keiro no hyoogen [Event-based expression types and expressions of path in Japanese] (247–273). In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Matsumoto, Y. 2017c. Idoo-hyoogen no seishitu to sono ruikeisei [The nature of motion expressions and their typological status]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (337–353). Tokyo: Kurosio.

Matsumoto, Y. 2018. Motion event descriptions in Japanese from typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics* (273–289). Berlin: Mouton. https://doi.org/10.1515/9781614514077-010

Matsumoto, Y., Akita, K., & Takahashi, K. 2017. The functional nature of deictic verbs and the coding patterns of Deixis: An experimental study in English, Japanese, and Thai. In I. Ibarretxe-Antuñano (Ed.), *Motion and space across languages and applications* (95–122). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.59.05mat

Matsuse, I. This volume. The distinct coding of Deixis and Path in Kathmandu Newar.

Morita, T. This volume. Visual saliency weighed against typology and cognitive cost: An experimental study of French motion descriptions.

Morita, T., & Ishihashi, M. 2017. Nihongo to furansugo no idoo-hyoogen: Hanashikotoba to kakikotoba no tekusuto kara no koosatsu. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (275–302). Tokyo: Kurosio.

Muansuwan, N. 2002. Verb complexes in Thai. Unpublished Ph.D. dissertation, State University of New York at Buffalo.

Newman, P. 2000. *The Hausa language: An encyclopedic reference grammar*. New Haven: Yale University Press.

Osam, E. K. 1997. Serial verbs and grammatical relations in Akan. In T. Givón (Ed.), *Grammatical relations: A functionalist perspective* (253–279). Amsterdam: John Benjamins. https://doi.org/10.1075/tsl.35.07osa

Packard, J. 2000. *The morphology of Chinese*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511486821

Rubino, C. 2005. Iloko. In A. Adelaar & N. P. Himmelmann (Eds.), *The Austronesian languages of Asia and Madagascar* (326–349). London, New York: Routledge.

Schaefer, R. P. 1989. Typological mixture in the lexicalization of manner and cause in Emai. In P. Newman & R. D. Botne (Eds.), *Current approaches to African linguistics*, Vol. 5 (127–140). Dordrecht: Foris.

Schultze-Berndt, E. 2000. Simple and complex verbs in Jaminjung: A study of event categorisation in an Australian language. Ph.D. dissertation, University of Nijmegen.

Schultze-Berndt, E. 2015. Complex verbs, simple alternations: Valency and verb classes in Jaminjung. In A. Malchukov & B. Comrie (Eds.), *Valency classes in the world's languages: Case studies from Austronesia, the Pacific, the Americas, and theoretical outlook* (1117–1162). Berlin: Mouton de Gruyter.

Sebba, M. 1987. *The syntax of serial verbs: An investigation into serialization in Sranan and other languages*. Amsterdam: John Benjamins. https://doi.org/10.1075/cll.2

Sinha, C., & Kuteva, T. 1995. Distributed spatial semantics. *Nordic Journal of Linguistics*, 18, 167–199. https://doi.org/10.1017/S0332586500000159

Slater, K. W. 2003. *A grammar of Mangghuer: A Mongolic language of China's Qinghai-Gansu sprachbund*. London & New York: Routledge.

Slobin, D. I. 1996. Two ways to travel: Verbs of motion in English and Spanish. In M. Shibatani & S. A. Thompson (Eds.), *Grammatical constructions: Their form and meaning*. Oxford: Clarendon Press.

Slobin, D. I. 2004. The many ways to search for a frog. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (219–257). Hillsdale, NJ: Lawrence Erlbaum.

Slobin, D. I. 2009. Relations between Paths of motion and Paths of vision: A crosslinguistic and developmental exploration. In V. C. M. Gathercole (Ed.), *Routes to language: Studies in honor of Melissa Bowerman* (197–222). New York & London: Psychology Press.

Slobin, D. I., & Hoiting, N. 1994. Reference to movement in spoken and signed languages: Typological considerations. *BLS*, 20(1), 487–505. https://doi.org/10.3765/bls.v20i1.1466

Sohn, H.-M. 1999. *The Korean language*. Cambridge: Cambridge University Press.

Takahashi, K. 2000. Expressions of emanation fictive motion events in Thai. Ph.D. dissertation, Chulalongkorn University.

Takahashi, K. 2017. Tai-go no idoo-hyoogen. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Takahashi, K. 2018. Deictic motion constructions in Japanese and Thai. In P. Prashant & T. Kageyama (Eds.), *The handbook of Japanese contrastive linguistics* (291–312). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614514077-011

Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and syntactic descriptions: Vol. 3. Grammatical categories and the lexicon* (36–149). Cambridge: Cambridge University Press.

Talmy, L. 1991. Path to realization. *Proceedings of the seventeenth annual meeting of the Berkeley Linguistics Society*, 480–519. Berkeley Linguistics Society, University of California, Berkeley.

Talmy, L. 1996. Fictive motion in language and 'ception'. In P. Bloom, M. A. Peterson, L. Nadel, & M. F. Garrett (Eds.), *Language and space* (211–276). Cambridge: MIT Press.

Talmy, L. 2000. *Toward a cognitive semantics, Vol. II: Typology and process in concept structuring*. Cambridge, MA: MIT Press.

Talmy, L. 2009. Main verb properties and equipollent framing. In J. Guo, E. Lieven, N. Budwig, S. Ervin-Tripp, K. Nakamura, & Ş. Özçalışkan (Eds.), *Crosslinguistic approaches to the psychology of language: Research in the tradition of Dan Isaac Slobin* (389–402). New York: Psychology Press.

Talmy, L. 2012. Main verb properties. *International Journal of Cognitive Linguistics*, 3, 1–24.

Talmy, L. 2016. Properties of main verbs. *Cognitive Semantics*, 2, 133–163. https://doi.org/10.1163/23526416-00202001

Thepkanjana, K. 1986. Serial verb construction in Thai. Doctoral dissertation, University of Michigan.

Tida, S. 2017. Domu-go no idoo-hyoogen [Motion expressions in Dom]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (159–188). Tokyo: Kurosio.

Verkerk, A. 2014a. The correlation between motion event encoding and path verb lexicon size in the Indo-European language family. *Folia Linguistica Historica*, 35, 307–358.

Verkerk, A. 2014b. Where Alice fell into: Motion events in a parallel corpus. In B. Szmrecsanyi & B. Wälchli (Eds.), *Aggregating dialectology, typology and register analysis: Linguistic variation in text and speech* (324–354). Berlin: Walter de Gruyter. https://doi.org/10.1515/9783110317558.324

Verhaar, J. W. 1995. *Toward a reference grammar of Tok Pisin: An experiment in corpus linguistics*. Honolulu: University of Hawai'i Press.

Wälchli, B. 2001. A typology of displacement (with special reference to Latvian). *Sprachtypologie & Universalienforschung*, 54, 298–323.

Wälchli, B., & Sölling, A. 2013. The encoding of motion events: Building typology bottom-up from text data in many languages. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the encoding of motion events* (77–113). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.04w228l

Wienold, G. 1995. Lexical and conceptual structures in expressions for movement and space: With reference to Japanese, Korean, Thai, and Indonesian as compared to English and German. In U. Egli, P. Pause, C. Schwarze, A. von Stechow, & G. Wienold (Eds.), *Lexical knowledge in the organization of language* (301–340). Amsterdam: John Benjamins. https://doi.org/10.1075/cilt.114.14wie

Wnuk, E. 2016. Semantic specificity of perception verbs in Maniq. Ph.D. dissertation, Radboud University, Nijmegen.

Yoshinari, Y. 2017. Itaria-go no idoo-hyoogen. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (189–212). Tokyo: Kurosio.

Zlatev, J. 2007. Spatial semantics. In H. Cuyckens & D. Geeraerts (Eds.), *The Oxford handbook of cognitive linguistics* (318–350). Oxford: Oxford University Press.

Zlatev, J., & Yangklang, P. 2004. A third way to travel: The place of Thai and serial verb languages in motion event typology. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (159–190). Mahwah, NJ: Lawrence Erlbaum Associates.

Name index

Subject index

Human languages exhibit fascinating commonalities and
variations in the ways they describe motion events. In this volume,
the contributors present their research results concerning
motion event descriptions in the languages that they investigate.
The volume features new proposals based on a broad range
of data involving different kinds of motion events previously
understudied, such as caused motion (e.g., kick a ball across)
and even visual motion (e.g., look into a hole). Special attention
is also paid to deixis, a hitherto neglected aspect of motion event
descriptions. A wide range of languages is examined, including
those spoken in Europe, Africa, and Asia. The results provide new
insights into the patterns languages deploy to represent motion
events. This volume will appeal to anyone interested in language
universals and typology, as well as the relationship between
language and thought.

John Benjamins Publishing Company