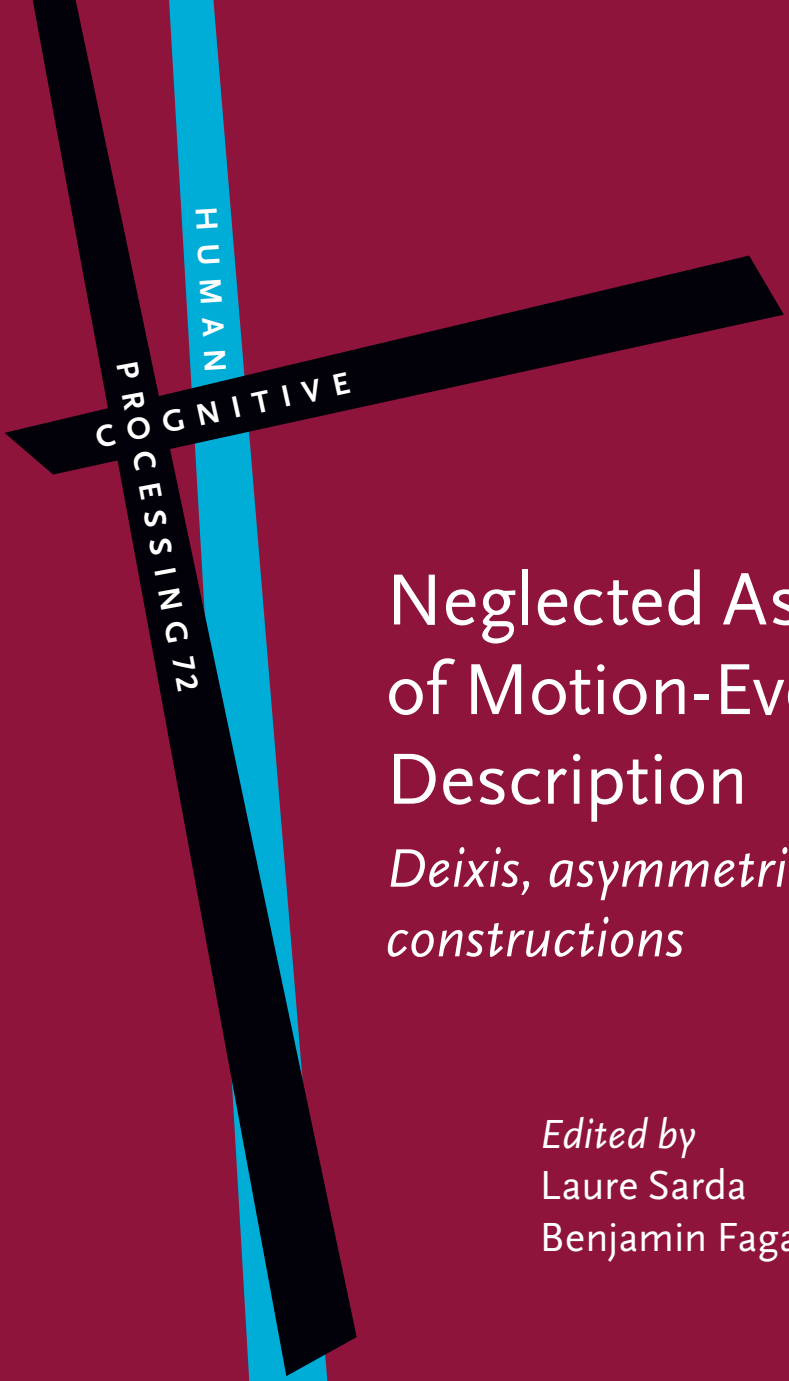

Neglected Aspects of Motion-Event Description

Deixis, asymmetries, constructions

Edited by
Laure Sarda
Benjamin Fagard

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Edited by

Laure Sarda
Benjamin Fagard
Lattice, CNRS, ENS-PSL & Université Sorbonne Nouvelle

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Foreword

The present volume is based on papers given at the first NAMED conference, held in Paris in May 2017. The conference was intended to point the way forward to a new balance in the field of motion studies. The focus on neglected aspects of the description of motion was sparked in response to Talmy's foreword to "Motion and Space across Languages"[1] (Ibarretxe-Antuñano 2017), in which he sets out a number of parameters for describing various motion situations. Very few studies have been devoted to the linguistic description of different motion situations. Instead, the community of researchers exploring the semantics of space has concentrated on one type of motion with a given problematic, largely neglecting the description of a wide array of others. Leonard Talmy accepted our invitation to give a series of lectures at the Ecole Normale Supérieure in Paris both before and during the conference.[2]

The conference and this publication has received support of Translitteræ (Ecole universitaire de recherche, program « Investissements d'avenir » ANR-10-IDEX-0001-02 PSL* and ANR-17-EURE-0025).

1. Ibarretxe-Antuñano, I. (Ed.). 2017. *Motion and Space across Languages: Theory and applications*. Amsterdam & Philadelphia: John Benjamins.

2. Talmy's lectures are available online: http://savoirs.ens.fr/conferencier.php?id=2748

CHAPTER 1

Introduction: The description of motion events

On deixis, asymmetries and constructions

Laure Sarda and Benjamin Fagard
Lattice, National Center for Scientific Research (CNRS),
École Normale Supérieure – PSL & Université Sorbonne Nouvelle

1. Introduction

Studies on the linguistic expression of spatial relations constitute a vast and diverse body of works, the focus of which has been slowly but steadily shifting, from localism in the 19th and 20th centuries to spatial deixis, frames of reference, topological relations and, more recently, motion events. The importance of space for language has been at the heart of localist theories (Michelsen 1843, Hjelmslev 1935–1937), with important works such as those of Anderson (1971) and Lyons (1977). Cognitive linguists from various theoretical backgrounds have subsequently defended the idea that the importance of space in language results from the way human beings conceive of and perceive the world (e.g. Lakoff and Johnson 1999): for instance, in this view, we talk spatially about time because we use spatial relations to understand time (Haspelmath 1997, Jackendoff 1983, Casasanto and Boroditsky 2008). Psychologists and psycholinguists have shown that space plays an important role in language acquisition, and that children acquire spatial concepts quite early as compared to other conceptual domains (Bowerman 1996, Slobin 1996, Hickmann 2010).

Influential figures in the domain have addressed this issue from different angles. Thus, the investigations by Bowerman and Levinson at the Max Planck Institute in Nijmegen, and the experimental approach adopted by Slobin, focus on language use and include possibilities of variation, which can also be found in the functional stance taken by Vandeloise (1986); on the other hand, the typological approach adopted by Talmy (2000) aims to uncover universal patterns across languages.

The linguistic expression of motion is indeed a privileged domain for discussing mutual influences between language and cognition: moving through space and moving objects around, but also talking about our own and others' movements, are among the most common human activities. Motion is all the more interesting given the fact that languages differ widely in the way they structure spatial information:

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not only do languages provide *different morphosyntactic means* (e.g. main verbs, serial verb combinations, adpositions, verb prefixes) to encode a given type of spatial information, they also enable the encoding of *different types of information* (e.g. Path, Manner, Ground) with similar means, with speakers of different languages apparently tending to focus on different elements of spatial scenes. While linguists and philosophers have been studying these phenomena for centuries, much evidence about the influence of language on thought has been provided by new data. This renewed interest links back to fundamental questions such as whether our experience of the world is reflected in language structure, and, conversely, to what extent language shapes our experience of the world. It links back, ultimately, to the debate between universalism and relativism, the so-called Sapir-Whorf debate, which has itself led to a wealth of publications (Whorf 1956, Hill and Mannheim 1992, Gumperz and Levinson 1996, Slobin 1996, Goddard 2003a, b, Subbiondo 2005, Fortis 2010, 2014, and Regier and Xu 2017, to name just a few).

In the specific domain under investigation here, the universalism-relativism debate has mainly been investigated in terms of a single opposition, based on lexicalization patterns (Talmy 2000). Over the last thirty years, much attention has indeed been devoted to one specific issue, viz. *the Manner/Path divide* in relation to the distinction between Verb-Framed and Satellite-Framed languages (VF *vs* SF). The question of the locus of expression of *Path* (main verb or satellite), and that of *Manner* of motion, has given rise to a rich and abundant literature both in descriptive linguistics and in psycholinguistics, often in a typological perspective. This opposition between languages that express Path in the main verb and those that express it in a satellite is important and even central in current research on motion event descriptions. It has generated a considerable volume of publications, showing an increased interest in micro-variation (see, for instance, Schultze-Berndt 2000, Slobin 2004, Croft et al. 2010, Beavers et al. 2010).

Focusing on these questions has, however, left many other aspects of motion events description unexplored. So much so, in fact, that Leonard Talmy has deplored, a few years ago, the limitations of research on motion-event description in the last twenty years:

> research on the Motion typology has mainly addressed only Manner from the full set of framing relations, and only Motion from the full set of macro-event types. And research on fictive motion has addressed mainly coextension paths out of the full set of path categories. But researchers can use their strengths in diverse languages and empirical methods to examine the remaining parameter values
>
> (Talmy 2017: 1)

There is indeed a full range of 'parameters' at work in descriptions of motion events, including aspects which have been somewhat neglected, such as visual motion. This book intends to correct the balance, by offering new insights into the relationships

between (i) motion and deixis, (ii) motion and asymmetry, and (iii) motion and constructions.

The very goal of this book is thus to point the way forward to a new balance in the field of motion studies, by exploring areas less studied than the over-described distinction between Verb-framed and Satellite-framed languages. It provides insights into some of the complexities involved in the linguistic expression of motion across a sample of over 15 languages, with data and examples from over 40 languages.[1]

2. Motion and deixis

Perhaps more than any other aspect of space in language, deixis has drawn an incredible amount of attention from linguists. As a result, there has been a wealth of research, both on personal or temporal deixis and in connection with its use to describe and refer to space. Literally hundreds of papers and volumes have been dedicated to the study of deixis – both static and dynamic, verbal (Ricca 1993) and non-verbal, spatial (Imai 2009) and non-spatial (Marchello-Nizia 2006), language-specific and typological (Denny 1978, Weissenborn and Klein 1982, Anderson and Keenan 1985, Bourdin 2005), from Bühler (1982/1934) to Fillmore (1971, 1997) and Rauh (2003). The literature on the subject seems beyond measure.

This focus might be linked to one specificity of deixis: deictics, unlike all other elements of language, are rooted in the utterance, in the *here-and-now*, and change along with speaker and addressee. In the wake of Bühler (1982/1934) and similar approaches, we could even see language as a continuation of the act of pointing: on this view that language has a gestural origin (Corballis 2010), deixis is of prime importance for understanding the emergence of language. From a diachronic perspective too, deictic elements are special: they do not seem to arise from a process of grammaticalization, although they generally comply with the characteristics of highly grammaticalized elements (high frequency, reduced paradigm, shortness); their origin is generally opaque (Diessel 2012).

Studies on deixis have so far shown that the *locus* of deixis varies across languages: demonstratives constitute its prototypical locus, but deixis may be expressed for example in verbs such as English *come*, Italian *venire* 'to come', verb suffixes as in German *hin-* 'hither' and *her-* 'thither', and even prosodic markers (Ozga 1996).

---

1. Arbore, Assiniboine, Burmese, Cavineña, Chamorro, Chaozhou, Datooga, Dinka, East Uvean, Èdó, Emai, English, Ese Ejja, Fante, French, German, Gilbertese, Gumuz, Homeric Greek, Hungarian, Italian, Jakaltek Popti', Japanese, Karajá, Kathmandu Newar, Kemtuik, Kiowa, Lakhota, Laz, Northern Mandarin, Pashto, Quechua, Russian, Sereer, Somali, Swedish, Tagalog, Thai, Tima, Tonkawa, Uduk, Wolof.

The *distinctions* encoded by deictics seem to display an even greater variation. The basic opposition is binary (speaker-proximal *vs* speaker-distal), but languages may encode a variety of features (e.g. *distance, direction, visibility*, cf. Pajusalu 2006: 241) and present very different degrees of contrast. Most systems have two-way (English, Danish, Dutch, Polish) or three-way contrasts (Latin, Romance, Greek, German, most Slavic languages, Nunggubuyu, Tagalog, Swahili) (cf. Kryk-Kastovsky 1996), but some systems are more complex (there are up to 88 spatial distinctions in East Eskimo, according to Denny 1985: 113, 117–120).

This variation in paradigm complexity is observed not only for deictics, but also in the case of demonstratives: languages generally seem to have at least two terms (Anderson and Keenan 1985: 308),[2] but some have three (Latin *hic/iste/ille*), four (Sre, Vietnam), six (Sami Nesseby, a Finnic dialect), fourteen (Daga, Papua New Guinea) or even more than thirty (Alaskan Yup'ik Eskimo) (Senft 1997: 8, Pajusalu 2006: 242).

Deictics have been shown to display a variety of uses beyond their basic use for person, space and time. They can have endophoric functions, such as that of tracking a previously introduced referent (anaphoric deixis) or a proposition (discourse deixis) (Cornish 1999, 2007, Diessel 1999: 96). They can take on recognitional uses, when the construal of an expression such as *you know what* relies on a presupposed common ground shared by the interlocutors (Himmelmann 1996: 240).

In addition, deictics may take on exophoric functions: spatio-temporal uses, of course, but also honorific uses. They may for instance refer to speech act participants and their social status (social deixis) (cf. Levinson 1983: 61), or notional uses (Pottier 1992), and textual uses (Lyons 1977, Diessel 1999: 101).

Despite the extensive knowledge gathered on deixis and its use across languages, there are still less explored areas. The first part of this volume, dedicated to relationships between motion and deixis, contains four chapters dealing with original aspects of deixis. Some of the questions raised in these chapters are how to better define the status of deixis with respect to motion: what impact does the definition of the status of deictic verbs have on motion typology? Would redefining the status of deictic verbs help build a better motion typology? Is deixis a main component of Path or an independent category? Is it co-substantial to any motion event? How do languages vary in the way they encode directional deixis? Are there functional uses or grammatical uses of deictic markers? How can we categorize deictic markers when they come to mark the temporal sequence of an action and a motion event? To these many questions, the four chapters of this section, by Morita, Matsumoto et al., Lamarre et al. and Bourdin provide some answers.

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2. According to Pajusalu, however, Livonian (a Finnic language) has only one demonstrative (Pajusalu 2006: 242, cf. Laanest 1982: 197–199).

Morita's chapter is entitled "What does Deixis tell us about motion typology? Linguistic or cultural variations of speakers' "here" space vis-à-vis perceived physical events". It questions the status of deixis with respect to the motion typology. In Japanese, deixis is almost always expressed as a main verb. This raises the question whether Japanese should still be considered a verb-framed language. A positive answer to this question may arise only if deixis is considered a sub-component of Path (next to *vector* and *conformation*, as initially described in Talmy 2000: 53–57). To confront the typology with actual language data, Morita compares, with elicited data of Japanese and French, the use of deictic verbs (*come* and *go*) to that of PPs containing a first person pronoun (*toward me* and *away from me*). In Japanese, deictic verbs are obligatory when the Figure moves toward or away from the speaker, without excluding the co-use of PPs. Conversely, in French, the use of deictic verbs is very limited and first person PPs are highly preferred. This contrast in encoding deixis through verbs or PPs also highlights the fact that Japanese favors an implicit reference to the speaker, whereas French makes it explicit. Based on these observations, Morita further shows that Japanese, unlike French, allows a conventionalized use of deictic verbs (*kuru* 'go' and *iku* 'come') to describe neutral scenes in which the Figure does not move toward or away from the camera but on a perpendicular axis with respect to the camera, for instance from right to left. Whereas French *aller* 'go' and Japanese *kuru* 'go' are perceived as rather neutral (with the unmarked meaning of 'move'), it is worth noting that Japanese frequently uses the ventive verb *iku* 'come' to describe events in which the Figure moves from the right into a house on the left. Morita argues that this use illustrates the malleability, beyond physical direction, of the subjective space of Japanese speakers, who seem to mentally integrate the space of the house they are in to their own 'here' space. In contrast, French does not seem to display similar uses. Morita's study brings forth interesting ideas about a possible typology of the expression of deixis. One open question at this point is to what extent a generalization could be drawn from this experimental comparison of two languages. From a cognitive point of view, for instance, it could be the case that speakers of languages that express deixis in the main verb would be more likely to pay attention to the perspective from which an event is perceived than speakers of languages in which the deixis is marked outside the main verb.

The following chapter "Linguistic representations of visual motion: A crosslinguistic experimental study", by Matsumoto and colleagues, addresses the linguistic expression of visual motion as in *Bill looked into the room*. Such situations are depicted as a subtype of fictive motion expressions, namely, the 'emanation' type (cf. Talmy 2000: 105–106), encompassing the motion not only of vision but also of light, shadow, sound, etc. Focusing on vision, Matsumoto et al. investigate whether the typology of motion event descriptions based on the description of self- and caused motion also applies to the description of Visual motion. They show that, in visual

motion descriptions, the expression of Path is globally not expressed in main verb position, be it in Satellite-framed languages or in Verb-framed languages. However, some properties of each language type may persist.[3]

Based on these observations, Matsumoto et al. investigate whether languages encode Deixis in visual motion descriptions in the same position as in the description of self- and caused motion. The study is based on data from ten languages, elicited with 3 series of video clips showing a person looking through an open door into a small building, filmed from three perspectives: toward the speaker, away from the speaker, or neutral. Results show that the expression of deixis and Path with a verb of vision is constrained. Only Thai, categorized as an equipollent-framed language, has a special slot for deictic verbs and expresses it almost as usual in self- and caused motion. In contrast, deixis is less frequently expressed in visual expression compared to self- and caused motion, in both Verb-framed and Satellite-framed languages. A possible explanation could be the difficulty of using deictic verbs without their subject. Japanese, for instance, systematically uses deictic verbs in self- and caused motion expression, but does so much less often in visual motion. This study brings together interesting facts to rethink, from the vantage point of visual motion, the basic typology contrasting Verb-Framed Languages and Satellite-Framed Languages. When the main verb slot is occupied not by a Path verb but by a visual verb, it seems that the possibility of keeping deixis in the core event is limited. This could be an argument to support the assertion that deixis is a subcomponent of Path and that these subcomponents of Path do not easily split across different syntactic slots.

The following two chapters (by Lamarre et al., and by Bourdin) provide data from typologically diverse languages, leading to a better understanding of the status of dynamic deixis, including the study of directionals and associated motion (cf. Wilkins 1991).

The chapter by Lamarre and colleagues, "Deictic directionals revisited in the light of advances in typology", offers an extensive description of the expression of associated motion (henceforth AM), a phenomenon typically marked by grammatical morphemes whose function is to add a motion process to the event encoded in the verb expressing the main (non-motion) event, and to specify the temporal sequence of these two events: motion-prior-to-action (e.g. *come* & *do* or *go* & *do*: for instance *come have a drink*) or motion-subsequent-to-action (*do* & *come* or *do* & *go*: ex. *have a drink and go*). AM is undeniably an understudied category, and Lamarre and colleagues argue that it is probably a very widespread phenomenon, which should be considered a grammatical category, alongside tense, mood and aspect. Their chapter

3. For instance, they explain that motion events with multiple path constructions (*jump through the window into the darkness*) are not easily found in Verb-framed languages, and that it remains rare for these languages to use multiple path constructions with visual motion (*look through the window into the darkness*).

investigates the expression of AM in five languages of Africa and Asia. It disentangles the complex relationships of AM markers with deictic verbs or deictic directionals (the focus of the next chapter by Philippe Bourdin) and suggests that morphemes expressing dynamic deixis might be an important source for the emergence of AM markers. More specifically, their study shows that an AM analysis adequately accounts for the function of morphemes previously considered as directionals in Wolof and Burmese. This is not always the case, however, as they also show that, in Sereer, Northern Mandarin and Japanese, AM markers co-occur with morphemes marking deictic orientation. Their results raise the question of the place of AM in a typology of motion events. At first sight, it may resemble what Talmy describes as co-events, e.g. precursion, concomitance, concurrent result, or subsequence types (Talmy 2000: 46). However, Talmy considers these constructions only in relation with a main lexical verb root expressing the motion component. In contrast, AM is conceived as expressing a motion in relation with another non-motion event. This fact calls for reconsidering the Talmyan concept of co-event to find a way of integrating AM in the typology of motion events.

The chapter by Philippe Bourdin, entitled "On a few instances where deictic directionals confound expectations", concludes the first section of the volume on motion and deixis. This chapter offers a wide description of directional deixis conceived as a "self-standing descriptive category". Bourdin analyses data from a wide variety of languages displaying an important variation, from core properties to more unexpected ones. His analysis provides a global system of understanding able to encompass the observed variation, relying on the "fundamental imbalance between the intrinsically conjunctive semantics of ventive markers and the disjunctive semantics of their itive counterparts" (this volume: 116). Bourdin claims that a directional deictic is defined as a marker that specifies the anchoring of the Goal to the deictic center, assuming that directional deixis is prototypically goal-oriented. He also highlights the fact that if directional deixis proper is by definition exophoric, it also has endophoric anchoring "whereby the motion event is not anchored to the deictic center but to a location which is determined intra-textually" (this volume: 105), i.e. commonly the location associated with the referent of the grammatical subject. To account for unexpected data from Somali, Uduk and Gumuz, Bourdin further describes directional deixis as a system made up of four components (Motion event, Goal, Figure and exophoric or endophoric Anchor) and an abstract operation consisting in defining a variable identified with or differentiated from the anchor.

The four chapters of this first part of the volume both report very specific uses of deixis, based on careful observations of the phenomena at hand in a large number of languages, and provide a global system of explanation allowing for a better understanding of the interaction of deixis and motion expression, within the general framework of the typology of motion events.

3. Motion and asymmetries

A motion event is generally analyzed as having four conceptual components: the *Figure* (localized entity), the *Motion* of this entity, the *Path* along which the Figure moves and the *Ground* which corresponds to the landmark with respect to which the Figure is localized (Talmy 2000). The Path component can be schematized as having three phases or portions: the initial phase (or *Source*), the medial phase (or path – with a lowercase "p"), and the final phase (or *Goal*). The reference to these phases can be inherently expressed by verb semantics, or explicitly expressed by a satellite or by the verb complement, as a prepositional phrase. For instance, we can identify Source verbs (*leave*), medial verbs (*walk*) and Goal verbs (*arrive*), and these verbs can combine with a Source PP (*from the river*), a path PP (*through the park*), and / or a Goal PP (*to the University*).

The notion of *asymmetry* in motion events often refers to the fact that Goal PPs are typically more frequently expressed than Source PPs. The expected or usual type of situations that have been studied are situations depicted by a medial verb. For instance, it has been shown that, with these medial verbs, the expression of the Source alone (1a) is often less acceptable than the expression of the Goal alone (1b), or of both Source and Goal together (1c).

(1) a. ?John walked from the river[4]
b. John walked to the university
c. John walked from the river to the university.

However, this constraint disappears when a Source PP combines with a Source verb, as in *he escaped*$_{[\text{Source V}]}$ *from prison*$_{[\text{Source PP}]}$. The combination with a Goal PP is nonetheless not excluded, as in *he escaped*$_{[\text{Source V}]}$ *to a foreign country*$_{[\text{Goal PP}]}$. It can be seen as another manifestation of the Goal Bias, in the sense that even Source verbs tend to occur frequently with a Goal PP.

From a cognitive point of view, there is evidence for the prominence of Goal over Source, even in human pre-linguistic understanding of events (Lakusta et al. 2007). It has been shown that there is a preference to pay more attention to the Goal of motion events than to the Source (Regier and Zheng 2007, Papafragou 2010, Verspoor, Dirven and Radden 1997, Lakusta and Landau 2005, Lakusta and Landau 2012). One explanation for this preference is the existence of a general cognitive bias towards the aims of human actions. This cognitive bias relies on the fact that human

4. This is easily tested on any corpus of English, for instance the BNC (British National Corpus): *to walk from x* is clearly less frequent than *to walk to x* (whatever "x" might be, and wherever it is placed, before or after the verb). In French, for instance, this construction seems downright ungrammatical: **Il a marché de la rivière* 'He walked from the river'.

actions generally involve human volition and intentionality. Goals thus have a higher information value because they fulfil this prototypical expectation that humans act toward specific aims.

From a linguistic point of view, asymmetries between Goal and Source take multiple forms: morphological, semantic, syntactic and pragmatic (Ungerer and Schmidt 1996, Lakusta and Landau 2005, Kopecka and Ishibashi 2011).

The morphological complexity of Goal and Source is thus typically asymmetrical, as in (2).

(2) Pengo (Dravidian, Bourdin 1997: 196–197).
a. il **bitre** hōt-at
house inside go.in:PAST-3FEM.SG
she went into the house
b. il **bitre-taŋ** hō-tt-at
house inside-ABL come.out-PAST-3FEM.SG
She came out of the house

It has been widely confirmed that the expression of Goal tends to be morphologically less marked than the expression of Source (Jackendoff 1983, Ikegami 1984, Fillmore 1997, Bourdin 1997, Ihara and Fujita 2000).

On the other hand, finer semantic distinctions can be encoded when expressing the Goal rather than the Source. For instance, in Georgian, as noted by Bourdin (1997: 198), there is a full paradigm for expressing location and Goal (at least six forms combining dative or genitive cases + suffix), whereas there is only one neutral form (instrumental + *-dan*) to encode the Source.

Syntactically, Nam (2004) claims that, in English, the Goal generally maps onto an argument, whereas the Source preferentially maps onto an adjunct, and that they also exhibit different properties with respect to locative alternation. However, other studies at the syntax-semantic interface have shown that asymmetry does not uniformly affect the whole lexicon of motion verbs, but is instead verb-specific. For instance, Stefanowitsch and Rohde (2004), Stefanowitch (2018), Aurnague (2019), and Sarda (2019) have shown that some verbs systematically trigger a focus which is not on the Goal, as is the case for *stroll* (e.g. *in the woods*), or *escape* (e.g. *from prison*). The status of a PP as argument or adjunct cannot always be straightforwardly mapped onto those of Goal and Source.

At the pragmatic level, one portion of the Path may be left unexpressed because it would entail additional cognitive and communicative costs, in contradiction with Grice's Maxims (Grice 1989). Talmy introduced the notion of *windowing of attention* to point to the fact that some components can be highlighted (i.e. explicitly mentioned), while others are backgrounded (i.e. left unexpressed). The main pattern is a backgrounded Source and a foregrounded Goal; the Goal is, however,

easily backgrounded when it is recoverable (be it from the context, or on account of world knowledge), or when it is clearly not in focus, as in *He slipped out as soon as she fell asleep* (meaning 'he left her').

The Source–Goal asymmetry can thus be marked at various levels, and generalizations must be carefully handled in light of linguistic facts: in a typological perspective, we should be careful to compare comparable things, be they morphemes, structures, constructions or semantic concepts (cf. Haspelmath 2010, Croft, 2001, 2003, 2010).

The second part of this volume, on motion and asymmetry, includes three chapters by Aurnague, Song, and Guse, respectively addressing asymmetries in French, Chinese and German.

Aurnague's chapter examines French intransitive motion verbs and their occurrence without locative PPs, in what he labels an 'implicit landmark construction'. Aurnague first sets out the general principles of motion verb classification, as described in Aurnague (2011). Two defining criteria, "change of placement" and "change of locative relation", combine to establish a finer characterization of four event types, ranged along a scale of dynamicity, from more static events (change of posture verbs) to more dynamic ones (strict motion verbs). The chapter focuses on strict motion verbs, which involve both a change of placement and a change of locative relation. The implicit landmark construction under study reveals strong asymmetries between initial verbs (*partir* 'leave') and final verbs (*aller* 'go'). While the former always license the implicit construction, the implicit use of the latter is far more restricted. Aurnague shows that this asymmetry is due to the specificity of the verbs' semantic structure: initial verbs of change of relation usually do not include a subsequent change of placement in their semantic content, whereas final changes of relation may imply a change of placement. General constraints are identified for verbs to occur in implicit use (without locative PP). Aurnague examines the combination of initial and final verbs with locative PPs of opposite polarities (Source verbs with Goal PPs, and vice-versa) and shows that most verbs that license the implicit construction may also combine with a PP of opposite polarity. It is noteworthy that this study highlights subtle semantic phenomena and emphasizes the role of the verb's semantic structure in the way the goal bias is reflected in French expression of motion.

The chapter by Song explores the Source-Goal Asymmetries in expressing self- and caused motion in Standard Chinese. Based on data elicited from two sets of visual stimuli (*Trajectoire*, Ishibashi et al. 2006, and *Put and Take*, Bowerman et al. 2004), Song proposes a fine-grained description of the expression of Source and Goal. Drawing on Wälchli's (2001) classification of motion verbs, Song observes the locus of encoding of Source and Goal information: (i) verb stems, (ii) affixes or particles and (iii) adpositions. The data reveal that the expression of Source oriented events is morphosyntactically more complex than that of Goal-oriented ones. Expressing a Source-oriented event calls for a combination of satellites and

prepositional phrases, while the Goal tends to be expressed in a single element (satellite or preposition). Song also describes how different grammatical resources are mobilized depending on the type of motion event: verbs, satellites and prepositions may all be used in self-motion contexts, whereas in caused motion, Source and Goal information is encoded by satellites, prepositions and modifiers rather than by verbs. It is also shown that in descriptions of complex paths exhibiting both the Source and the Goal of the event, Source information is more frequently expressed in spontaneous motion and Goal information is more frequently expressed in caused motion events. This chapter reveals complex contrasts in the choice of linguistic resources mobilized for encoding Source and Goal information. It confirms the existence of asymmetries already observed between Source and Goal, such as the morphosyntactic complexity linked to the expression of the Source. At the same time, it highlights specific characteristics of Standard Chinese, viz. a more frequent expression of Sources in descriptions of Complex Paths based on self-motion events.

Guse's chapter aims at defining the level of specificity in the encoding of Source and Goal paths in German, and at evaluating whether or not the factors of volition and animacy tend to promote the expression of the Goal. Comparing the expression of attachment ('put') and detachment events ('take'), Guse shows a contrast between attachment events, which involve the use of posture verbs, and detachment events, which call for only one lexical item (*ab/nehmen* 'take'). She also highlights an asymmetry between adpositions encoding Goal and Source paths, the former being more numerous than the latter. Contrastively, the German Source particles are more numerous than Goal particles, and the profiling or windowing of the Source path requires the use of more complex verb forms, namely verb-particle combinations. A corpus study involving 3,500 motion events extracted from *deTenTen* brings further statistical evidence of the prevalence of Goal over Source. The results show that the Goal is three times as frequent as the Source. On the other hand, the data also shows, against all odds, that the concepts of volition and animacy do not favor the windowing of the Goal path. This result raises an interesting question, i.e. whether language-specific preferences may override cognitive motivations for a goal bias.

These three chapters rely on data from three typologically different languages (French, Standard Chinese and German) and highlight some language specificities. Further research should investigate whether these observed specificities are indeed linked to these languages, or more generally to these language types (see e.g. Kopecka and Vuillermet (eds), 2021). For instance, it appears that the locus of Source and Goal information, as well as the number of times this information is encoded, reveal differences across languages. However, two main principles seem to be confirmed, for each language: an expression of the source which is morphosyntactically more complex than that of the goal, and a higher frequency of Goal expression.

4. Motion and constructions

When talking about motion constructions, one immediately thinks of the two main lexicalization patterns for expressing a motion event, as proposed by Talmy (1985, 2000). Languages are classified according to the fact that they express the Path component typically in the verb (*Jean est **entré** dans le jardin en courant* 'John entered the garden running') or in a satellite (*John ran **into** the garden*), establishing the very popular typological distinction between Verb-Framed and Satellite-Framed Languages.

This typological distinction set the terms of the debate for several decades and is still the reference today, even if it has been revised from several perspectives. For instance, Matsumoto (2003) reformulated the distinction in terms of head-framed and non-head-framed languages, to avoid the difficulty of defining what a satellite is. Similarly, Slobin (2008, 2017) opposes languages with Path-in-verb and those with Path-in-non-verb. Talmy's two-way dichotomy gave rise to a rich characterization of motion expressions in many languages of the world.

It has long been admitted that languages usually exhibit a preferred pattern. However, it has also been pointed out that some languages remain difficult to classify, and other types have been proposed. Talmy himself (2000 II: 64–66) evokes *a split-system of conflation* when, in a given language, different event types favor different patterns. He identified as a *parallel system of conflation* the fact that a given event type can equally be expressed by the two patterns in a same language, for instance in Modern Greek (ibid.).

Despite these additional types, the Verb-framed / Satellite-framed division has been further challenged. Slobin (2004), for instance, suggested adding a third type, *equipollent-framed languages* (EF), to account for cases where Manner and Path are encoded by constituents with equal syntactic status – as in serial verb constructions[5] (see also Zlatev and Yangklang 2004, as well as Shaefer and Egbokhare, this volume). Slobin also pointed out the presence of gradients and mixed categories among languages of the world. He focused on the Manner component, which is concomitantly encoded with the Path component as a main verb, or outside the main verb. He thus suggested another perspective, classifying languages on a cline of Manner salience (2004: 250), and distinguishing *high Manner salient languages* from *low Manner salient languages*. The former have a syntactic slot for encoding Manner either as the main verb, as a Manner verb in serial verb constructions, or as a Manner morpheme in morphologically complex verbs. In contrast, in low Manner salient languages, Manner is subordinated to Path expression or left unexpressed. Similarly, Ibarretxe-Antuñano (2009) suggested the existence of a cline of Path salience.

5. Talmy (2016) argues that the different verbs in a serial verb construction do not have an equal syntactic status.

Talmy's typology has been further revised and expanded, along with a growing recognition that most languages may follow more than one of the proposed patterns (VF, SF or EF). Croft et al. (2010) argue against the classification of languages according to the fact that they exhibit a preferred pattern. They claim instead that intra-linguistic variation is such that typological distinctions should apply to constructions rather than to languages. In response to the stance that "typological characterizations often reflect tendencies rather than absolute differences between languages" (Slobin 1994: 248), Croft et al. argue:

> It would be much more interesting if we could find cross-linguistic universals by examining the intra-linguistic variation in the encoding of complex events, instead of treating them as exceptions that reduce a 'universal' to a 'tendency'.
>
> (Croft et al. 2010: 210)

It thus becomes relevant to study intra-linguistic variation as a clue pointing to potential cross-linguistic generalizations, rather than as exceptions to a supposedly dominant pattern. Croft et al. have proposed a classification of construction types. Beside Verb-framed and Satellite-framed constructions, they add double-framing constructions, and symmetrical constructions which include coordination, serialization, and compounding.

In order to capture relevant cross-linguistic generalizations, they rank these constructions (following Givón 1980) along a morpho-syntactic scale representing the "degree of integration or cohesiveness of the construction" (Croft et al. 2010: 220). This formal scale is paralleled by a conceptual scale of event types, and both scales are aligned in such a way that event types higher on the conceptual scale must be expressed by construction types higher on the formal scale, in any given language (ibid.). They further identify implicational relations between particular situation types and construction types. There is variation both "in constructions used for different events within a language", and "in constructions used for the same event across different languages" (ibid.). As pointed out by Beavers et al. (2010), intra-linguistic variation may be attributed to motion-independent factors, such as the morphological, lexical and syntactic resources available for encoding Manner and Path in a language.

In this brief review of the changes brought to Talmy's two-way framing typology, we have moved from a classification of language types to a classification of construction types. Indeed, classifying constructions rather than languages might prove to be a good way to go beyond the limits of the two-way Verb-framed *vs*. Satellite-framed typology. Another way to move forward can be found in approaches based on lexical semantics, such as Aurnague's classification of motion verbs (Aurnague 2011), briefly presented in Section 3. Aurnague delineates clusters of semantic features characterizing Manner (Stosic 2009, 2019) and Path, and identifies the features involved in the

lexical semantics of verbs. It follows that verbs are not classified into Manner or Path classes. Instead, as presented above in Section 3, verbs are classified according to the combination of two criteria, i.e. whether or not they imply *a change of placement*, and *a change of locative relation*. Aurnague thus distinguishes four verb classes. The two main classes are 'strong motion verbs' – which combine a change of placement and a change of locative relation (*go, leave, enter*) – and 'weak motion verbs' – which combine a change of placement without change of locative relation (*run, walk* but also *monter* 'ascend', *avancer* 'move forward', etc.). There are thus no *a priori* classes of Manner verbs or Path verbs. Instead, there are unbiased classes of strong or weak motion verbs which may involve some Manner and / or Path features.

As it stands, this classification does not derive from Talmy's framing typology, because it does not consider Path and Manner as atomic conceptual components that compete for presence either in the verb or outside the verb. Rather, it is reminiscent of the "actuating typology" (Talmy 2000, vol. 2, Chapter 1), which focuses on the main verb as a syntactic constituent to see which semantic constituent it expresses.

One striking fact resulting from this approach is that the Manner / Path or Manner / Result complementarity (Rappaport Hovav and Levin 2010, Levin and Rappaport Hovav 2013, 2019) might be called into question as, in some languages, a given verb can involve both Path and Manner features. For instance, in French, the verb *s'esquiver* means 'to leave' and 'to move stealthily' (akin to *sneak away*); similarly, *débouler* means 'to arrive in an untimely fashion' (akin to *tumble out*, see Sarda 2019). This makes it possible to dissociate and rethink strong semantic associations, such as the link between telicity and Path expression, and that between atelicity and Manner expression. Though this Manner / Result complementarity does stand as a strong tendency across languages of the world, cases of verbs involving both Manner and Path features should also be taken into consideration and studied in finer detail, to see whether they should be considered as simple exceptions to the general principle or whether they actually call into question the foundations of this principle.

An interesting way of going beyond this dichotomy may be to look at co-events other than Manner. This is what Joel Olofsson proposes in his chapter, opening the last part of this volume on motion and constructions. Olofsson's chapter, entitled "Co-event relations in Swedish motion constructions", is a corpus-based study analyzing a series of motion event constructions within the framework of construction grammar. Olofsson shows that, in these constructions, the motion component can be evoked by the construction in itself rather than by verb semantics. This explains why speakers of Swedish may use verbs such as *skratta* 'to laugh', *susa* 'to whistle' or *älga* 'to move in a moose-like manner' when describing motion events. Focusing on double adverbial constructions in Swedish, which typically feature a motion verb along with a directional adverb (e.g. Swedish *iväg* 'off', *in* 'into') and a PP (e.g. *till* 'to', *i* 'in'), Olofsson shows that the constructions he investigates are productive, and may

appear with less common verbs. On the basis of his corpus study, he establishes the existence of several types of co-events: *concurrent result, concomitance, predicative* and *modality*, all of which have been up to now much less investigated than *manner*.

Another stimulating direction of research can be found in the chapter on Lakhota, by Rainer Osswald and Robert D. Van Valin, Jr. The authors describe in detail the expression of caused motion in Lakhota. In order to do this, they explain the specificities of transitive directed motion, which involves "a wider range of semantic parameters than single-participant motion", e.g. the notion of *control*, an additional distinction between *extended* or *extent-durational causation* and *onset causation*, and that between *continuous* and *discontinuous causative chains*. They also provide an overview of Lakhota, making it possible for the reader to grasp the intricacies of its caused motion constructions. These constructions bring together a variety of elements of which a very fine description is given. These elements include mainly the multi-verb construction as it appears in Lakhota, the paradigm of deictic verbs (four simple verbs, and several compounds formed on the basis of these simple verbs), the locative and directional adverbs and prefixes, and the paradigm of instrumental prefixes. On the basis of this detailed account and of a complementary elicitation study with native speakers, they describe the specificities of one particular instantiation of the multi-verb construction, the simultaneous event construction, which can be used to express the combination of manner and causal force with deictic motion. The authors thus explain in detail how the different meaning components involved in such descriptions are distributed over lexicon, morphology and syntax.

In their chapter "Constraints constrained: equipollent verb constructions in Emai", Ronald P. Schaefer and Francis O. Egbokhare look at yet another semantic feature, i.e. co-event predications with Cause, in Emai, a West Benue Congo language spoken in Nigeria. Their chapter is all the more welcome given the little attention paid to languages in Africa in studies on motion event descriptions. They provide a detailed overview of predication types in Emai, with a focus on the role of serial verb constructions. They show that simple constructions (intransitive, transitive or ditransitive) are typically used for *basic translational motion*, while complex motion event descriptions, which include for example a co-event of Manner or Cause, may be expressed in a number of ways. Complex predicates include, in addition to serial verb constructions (or "verbs in series", in the authors' terminology), combinations of one or two verbs with a postverbal particle. Reviewing the expression of a variety of semantic relations, including *suspended attachment, affixed attachment*, and *restrained contact*, Schaefer and Egbokhare discuss the existence of correlations between construction type – or lexicalization pattern – and co-event type, with Manner, Cause and especially *extended dislocation* displaying different behaviors. They find that, with a Cause co-event verb, Path may lexicalize in a verb or a satellite,

depending on the type of motion event described (continued motion *vs* displacement and extended displacement). The authors plead for a semantic typology with Path assignment (to verb or non-verb) as a primary design principle.

Another interesting avenue of research is explored by Castrenze Nigrelli in his chapter on Homeric Greek. Investigating the case of three different Indo-European roots used to express the concept of *running* (*théō* from atelic **dhew*- 'to run', *trékhō* from atelic **dhregh*- 'to run', and the aorist *édramon* from the telic root **drem*- 'to run (to)'), he looks closely at lexical aspect, i.e. *Aktionsart*, as a verb-inherent semantic feature. He aims to evaluate the role of lexical aspect in the distribution of motion verbs and co-occurring spatial particles. The constructions found in the corpus appear to be constrained semantically, with non-random combinations of telic *vs* atelic verbs with (and without) goal-oriented *vs* non-goal-oriented particles. He presents evidence of different behavior of a given particle depending on the verb it combines with – namely, goal-oriented *epí* 'to, upon' assumes a non-goal-oriented value with atelic verbs. The constraints are also morphosyntactic, with similar biases in the combinations of verb type and particle type: in Homeric Greek, as shown by the author, spatial particles can appear as prepositions, adverbs and verbal prefixes (agglutinated or not). The study thus confirms that verb-inherent telicity is "a significant aspectual feature", entailing "a non-random distribution of spatial Ps", in terms of both semantic values and morphosyntactic cohesion.

The chapters in this volume focus on various aspects of motion event descriptions, and bring to light the importance of granularity in typological approaches: one crucial aspect in future research may involve taking into account various levels of description. This means comparing not only language systems but also, more widely, language use and thereby intralinguistic variation.

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PART I

Motion and deixis

CHAPTER 2

What does deixis tell us about motion typology?

Linguistic or cultural variations of speakers' "here" space vis-à-vis perceived physical events

Takahiro Morita
Kyoto University

This chapter discusses whether Deixis is genuinely a subcomponent of Path, as defined in Talmy's motion typology. Although previous studies have already pointed out several characteristics of Deixis that distinguish it from other non-Deictic Path components, its typological status remains vague and should be better defined. In this chapter, based on a video-based production experiment in Japanese and French, I argue that Deictic verbs have a functional meaning in both languages, and that this functional meaning of Deixis can be considered a subcomponent of Path, as it is motivated by the speaker's and Figure's relative position and Ground schema. Based on analyses with reference to different Deictic expressions, I also propose another typology of the ways in which speakers of different languages organize their "here" space vis-à-vis perceived physical events.

Keywords: functional meaning, French, Japanese, Path components, video experiment

1. Introduction

1.1 Deixis in the typology and literature

The typology of motion events proposed by Talmy (2000) focuses on the mapping between five conceptual components – Figure, Ground, Motion, Path, and Co-event – and the syntactic elements that encode them. The concept of Path comprises three subcomponents: Vector, Conformation, and Deixis (Talmy 2000: 53–57). Vector comprises the arrival, traversal, and departure that a Figure (i.e., the moving entity) executes with regard to a Ground (i.e., the reference object with respect to which the Figure is located). Conformation is a geometric complex that relates the fundamental Ground schema, such as a volume or an enclosure, to full Ground objects such as *bed* or *box*. Deixis, which is the object of analysis in this chapter, is defined as having

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two member notions: "toward the speaker" and "in a direction other than toward the speaker." In this chapter, verbs containing one of these three notions are called "Path-conflating verbs," or simply, "Path verbs." When a specific component of Path is in question, "Vector verb," "Conformation verb," or "Deictic verb" are also used.

Following this definition of Path, Deixis can be considered a specific arrangement of Conformation, Vector, or Ground wherein the speaker can be identified with the goal ("toward the speaker"), or with the source or positions irrelevant to the Path followed by a Figure ("a direction other than toward the speaker").[1] In other words, Deixis is determined by the speaker's and Figure's relative position in space. Other traditional studies such as Fillmore (1971[1997]) or Gathercole (1977) also adopt similar definitions, investigating the speaker's, hearer's, and Figure's position in space, whatever it is at the time of an event, or of speech, in order to define the appropriate use of Deictic verbs in a language. Thus, in studies of motion events, Deixis is traditionally considered as spatial in meaning.

On a typological level (Talmy 2000: 56–57), some languages with a Path-conflating verb system such as Spanish categorize Deictic verbs (i.e., *venir* 'come' and *ir* 'go') together with other non-Deictic Path-conflating verbs (i.e., verbs conflating Vector or Conformation, e.g., *llegar* 'arrive' or *partir* 'leave' expressing the goal or source (Vector verbs), or *entrar* 'enter' or *salir* 'exit' including the notion of enclosure (Conformation verbs)). Therefore, in Spanish, non-Deictic Path-conflating verbs and Deictic verbs constitute a paradigm, and one of these is used in the main verb position. Other languages with the same Path-conflating verb system, such as Korean, categorize these two types of verbs separately and can express Deixis and non-Deictic Path components concurrently in non-agentive sentences. Despite this difference, both Spanish and Korean are equally categorized as verb-framed languages, because Deictic verbs are subcomponents of Path-conflating verbs.

Japanese and French both have two Deictic verbs: Japanese *iku* 'go' and *kuru* 'come', and French *aller* 'go' and *venir* 'come'. These verbs are used in a similar way to their Korean and Spanish counterparts, respectively. Japanese Deictic verbs can be used in the main verb position with other Manner and/or non-Deictic Path-conflating verbs, as in (1). On the other hand, French Deictic verbs constitute a paradigm with other non-Deictic Path verbs and are hardly used with them, as in (2).[2]

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1. Talmy remarked in a footnote that "The Deictic is thus just a special choice of Vector, Conformation, and Ground, not a semantically distinct factor, but its recurrence across languages earns it structural status" (Talmy 2000: 138).

2. Some Vector verbs (traversal), such as *monter* 'ascend' or *descendre* 'descend', seem to combine with *venir; il vient en montant/en descendant les escaliers* 'he comes, ascending/descending the stairs'. *Aller* can also combine with these types of Path verbs, but is not strictly symmetrical with *venir* in that it requires a goal phrase or directional phrase: *il va vers elle en montant/en descendant les escaliers* 'he goes toward her, ascending/descending the stairs'.

(1) *Kare=wa heya=ni hashit-te hait-te* {*ki-ta/it-ta*}.
he=TOP room=DAT run-CVB enter-CVB come-PST/go-PST
'He came/went into the room, running.'

(2) a. *Il entre dans la salle en courant* {**en venant/*en allant*}.
he enter in the room run.GER come.GER/go.GER
b. *Il* {*vient/va*} {**en entrant*} *dans la salle en courant.*
he come/go enter.GER in the room run.GER
'int. He came/went into the room, running.'

Though the paradigmatic characteristics differ between the two languages, this difference has no impact on the typology as long as the Deictic verbs are considered Path-conflating verbs.

Contrary to the above spatial definition of Deixis and the view thereof as a component of Path, some previous studies have treated Deixis as an independent component, because it is often encoded differently from other non-Deictic Path components in certain languages (Morita 2011, 2017, Matsumoto et al. 2017, Matsumoto 2017, *inter alia*). Matsumoto et al. (2017) also argue that Deictic verbs, in particular venitive ones, are not merely spatial, but functional in meaning, as the use of venitive Deictic verbs is sometimes motivated by speaker-Figure relationships, such as their possible interactions, sharing of the same space, intrusion of the Figure into the speaker's viewing field, and so forth. In other words, venitive Deictic verbs are used when the Figure moves into a "meaningful space" to the speaker or into the speaker's "here" space, one that is not always physically defined (cf. Enfield 2003). This functional meaning can be expressed only by Deictic verbs, not by adpositional phrases containing the first-person pronoun such as *toward me*. Suppose that a Figure moves into the speaker's viewing field, moving laterally from left to right; in Japanese, it is possible to use the Deictic verb *kuru* to describe this situation when the speaker's viewing field is conceived as a speaker's "here" space, but not a postpositional phrase containing the first-person pronoun *watashi=no hoo=ni* 'me=GEN direction=DAT, toward me'. When the first-person pronoun is used, the motion must be faithful to the physical direction (Morita 2017).

1.2 Problems and aims of this study

This functional meaning of Deixis raises at least two questions. The first question is the status of Deixis in the satellite- and verb-framed typology. If Deixis were not a subcomponent of Path, Japanese would be categorized as another language type wherein the speaker's viewpoint is expressed in the main verb position, which differs from both verb-framed (i.e., Deixis is no longer a Path component) and satellite-framed languages (i.e., Co-event is not in the main verb). For example, sentences such as (1) would no longer be typical constructions of verb-framed languages, because Path

components (i.e., Conformation and Vector expressed by *hairu* 'enter') is encoded in a subordinate verb. In contrast, if Deixis were still a component of Path, investigations of Deixis would be a mere sub-categorization of the current typology (cf. Morita 2013), and it would be necessary to find theoretical significance to treat Deixis as an independent component in the typology.

The second question arises from the difference between a language that expresses Deixis with verbs, and one that employs prepositional or postpositional phrases containing the first-person pronoun. When languages differ in the predominant ways in which they express Deixis, the potential of expressing functional meaning may also differ between languages. In that case, what is the consequence of this cross-linguistic variation in the typological studies of motion event descriptions? This is a question that pertains to a weak hypothesis of linguistic relativity according to which linguistic conventions of a langue may compel the speakers to pay more attention to specific conceptual elements; if speakers of a language use Deictic verbs, are they more sensitive to the functional meanings of Deixis and more likely to express them? If speakers of another language use prepositional phrases with the first-person pronoun, are they less sensitive to the functional meanings and do they organize a different "here" space?

This chapter aims to demonstrate, based on a video-based production experiment in Japanese and French, that Deixis is a component of Path, not only in its spatial meaning, but also in its functional meaning. I also propose that the difference between Japanese, which expresses Deixis with verbs, and French, with prepositional phrases containing the first-person pronoun, leads to the creation of another typology on how speakers of different languages conceptualize their "here" space vis-à-vis perceived physical motion events. This proposes that a speaker's "here" space is to some extent elastic and may be variable across languages or cultures. For example, whether a perceived enclosed space is included in the speaker's "here" space or not is not universal, and the same motion may be described either as relevant to the speaker in some languages (i.e., described as "toward the speaker"), or as irrelevant to them in other languages (i.e., described as "a direction other than toward the speaker"). This functional perspective on Deixis would at least allow for the elucidation of a different "here" space of a language that can be described by Deictic verbs. As for Japanese and French, I will show that the speaker's "here" space covered by *kuru* and *venir* are different: the Japanese *kuru* can express a speaker's broader "here" space.

This chapter is organized as follows. First, Section 2.1 delineates the objects of analysis. After a presentation of the design of the experiment in 2.2, Section 2.3 provides the results thereof and argues that Deictic verbs and Deictic adpositional phrases containing the first-person pronoun are different in their functional meanings, and the speaker's "here" space expressed by *kuru* in Japanese and *venir* in French are different, reflecting the predominant Deictic expressions in each language. Section 3

discusses the typological status of Deixis and argues for the theoretical significance of analyzing Deixis as an independent component within the current typological framework.

2. Deictic expressions in a video-based production experiment

2.1 Deictic components in this study

Typical expressions of Deixis are Deictic verbs. As illustrated in Section 1.1, Japanese has *iku* 'go' and *kuru* 'come', and French has *aller* 'go' and *venir* 'come'. However, if Deixis is considered a specific case in which the speaker's position is identified with the goal or positions irrelevant to the Path followed by a Figure, Deictic expressions are not limited to Deictic verbs and include prepositional or postpositional phrases containing the first-person pronoun.

(3) a. *Tomodachi=ga watashi=no hoo=ni arui-te ki-ta.*
friend=NOM me=GEN direction=DAT walk-CVB come-PST
'A friend came toward me, walking.'

b. *Un ami marche vers moi.*
a friend walk.PRES toward me
'A friend walks toward me.'

(4) a. *Tomodachi=ga watashi=no tokoro=kara jitensha=no hoo=ni*
friend=NOM me=GEN place=ABL bike=GEN direction=DAT
hashit-te it- ta.
run-CVB go-PST
'A friend went toward the bike, running away from me.'

b. *Un ami a couru vers le vélo en s'éloignant de moi.*
a friend run.PST toward the bike go.away.GER from me
'lit. A friend ran toward the bike, getting away from me.'

Explicit and implicit references to the speaker (i.e., the first-person pronoun and Deictic verbs, respectively) are truth-conditionally equivalent as long as the spatial direction is identical. For example, (3b) can be paraphrased as *un ami vient en marchant* 'a friend comes, walking' without changing the truth conditions. In Japanese, Deictic verbs are obligatory when the Figure moves toward the speaker and this type of commutation is not possible (see also Shibatani 2006). However, the addition or deletion of a postpositional phrase does not change the truth conditions, and it is possible to omit *watashi=no hoo=ni* from (3a) and *watashi=no tokoro=kara* from (4a).

Specifically, adpositional phrases are not inherently Deictic, because they are a complex expression consisting of a non-Deictic Vector component such as *vers*

'toward' or *de* 'of, from' and a Deictic personal pronoun. In this study, however, Deictic verbs and adpositional phrases are both treated as Deictic expressions, because they can describe the same perceived event as in (3) and (4).

2.2 Design and method of the experiment

The experiment is part of the NINJAL project on Motion Event Descriptions across Languages (MEDAL, leader: Yo Matsumoto), and uses video clips produced within this project. It aims to verify whether the expression patterns of motion events are truly biased by Talmy's framing typology, in particular analyzing correlations between Path, Manner, and Deixis types. It enables us to analyze, for example, whether a verb-framed language always encodes the notion of Path in the main verb, whatever the Manner or Deixis types are. It therefore contains a core set of 27 clips, each depicting motion events involving three conceptual components: Manner, Path, and Deixis. Each component has three subtypes: (1) Manner: walking, running, and skipping; (2) Path: horizontal motion on a road to a certain location in a park (TO), inward motion into a pavilion (INTO), and upward motion on a flight of stone steps (UP); and (3) Deixis: toward the speaker, away from the speaker, and neutral (the camera position is outside the route followed by a Figure).

Thus far, based on this experiment, it has already been confirmed that French speakers use more frequently prepositional phrases containing the first-person pronoun than Deictic verbs, whatever the Manner and Path types are (for the results of Manner and Path expressions, see Morita 2020). In this chapter, focusing on a comparative study of Deixis with Japanese, I will analyze how differently Deictic relations are expressed in each language and what the typological consequences are of these different expression patterns. As an effect of Path types, the INTO scene of the video clips gives rise to an important difference between the two languages, the result of which will be discussed in 2.3.2.[3]

Participants in the experiment were requested to watch each video clip one by one and describe what they had seen after each one was presented. Responses of the informants were not limited to one clause, hence a clip may be described either in a clause as in *un ami rejoint un vélo en courant* 'a friend joins a bike, running', or in two or more clauses as in *un ami court et arrive près d'un vélo* 'a friend runs and

3. As stated in this paragraph, a previous observation confirmed that Manner and Path types do not have an impact on the predominance of Deictic prepositional phrases over Deictic verbs in French. In particular, this tendency is significantly enhanced when the Path is UP; because it is always expressed by the verb *monter* 'ascend', there is no room for Deictic verbs to appear in the main verb position (Morita 2020).

arrives near a bike'. If the same core motion event was rephrased more than twice, the final expression was adopted in the data. In this way, oral descriptions were produced based on participants' memory, and they were recorded and transcribed. In total, there were 26 French speakers and 22 Japanese speakers. The author collected and analyzed the French data, and Japanese data were collected and provided by Yuko Yoshinari and Hiroaki Koga. The analysis is not backed up by a second person, but the coding method was decided and shared with all the members of the project.

2.3 Results and discussions

First, this section presents how Deixis is described and how each language uses different ways to describe it. Among the three Path types, an important difference between Japanese and French was identified in the neutral INTO scenes. Next, the functional difference between Deictic verbs that are frequently used in Japanese and prepositional phrases containing the first-person pronoun that are predominant in French will be discussed.

2.3.1 *Deixis as a physical direction in andative and venitive directions*

A striking difference between the two languages is the way in which Deixis is predominantly expressed. Tables 1 and 2 show the frequency of the morphosyntactic elements used to describe the scenes of "moving away from the speaker" (Table 1) and "toward the speaker" (Table 2). In these tables, "Main verb" stands for Deictic verbs, and "Adpositional" for the postpositional or prepositional phrases involving the first-person pronoun *watashi* or *moi* 'me'. "Contextual" corresponds to setting expressions that describe the speaker's and Figure's relative position before or after the motion, such as *un ami qui était avec moi court vers un vélo* 'a friend who was with me runs toward a bike'. This sentence has no Deictic component in the core of the motion description (i.e., *un ami court vers un vélo* 'a friend runs toward a bike'), but is sufficiently informative with respect to the Deictic relation (i.e., andative) by virtue of a relative clause depicting the state before motion.

Table 1. Morphosyntactic elements expressing "away from the speaker"

	Main verb	Adpositional	Contextual	Total	Non-specification
Japanese	99.0% ($N = 196$)	5.6% ($N = 11$)	6.6% ($N = 3$)	106.1% ($N = 210$)	3.5% ($N = 7$)
French	8.5% ($N = 20$)	15.8% ($N = 37$)	36.3% ($N = 85$)	60.7% ($N = 142$)	48.3% ($N = 113$)

In Table 1, the denominator for calculating the percentage is 198 for Japanese and 234 for French (the number of participants of each language × 9 scenes of "away from the speaker"). If one participant specifies the Deictic relation two or more times, the percentage can surpass 100%.[4] The same calculation method is applied in Tables 2 and 3. Significance is tested by chi square test within "Total," excluding "Non-Specification" or the potential number of responses.

Table 1 shows that the predominant strategy of Japanese is the main verb as in (5), and the use of the Deictic verb *iku* is significantly greater than in French ($\chi^2 = 221.08$, $p < .00$, $df = 1$). In French, the main verb is often a path or manner verb, and Deixis is sometimes expressed by the prepositional phrase *de moi* 'from me' as in (6a) or contextually by setting phrases as in (6b). The use of both prepositional phrases and contextual strategies is significantly greater in French ($\chi^2 = 29.43$, $p < .00$, $df = 1$; $\chi^2 = 151.16$, $p < .00$, $df = 1$, respectively).

(5) *Tomodachi=ga sukippu shi-nagara kyuukeijo=no naka=ni*
friend=NOM skip do-while rest place=GEN inside=DAT
hait-te iki-mashi-ta.
enter-CVB go-HON-PST
'A friend went into a rest place, skipping.'

(6) a. *Mon ami qui était avec moi rentre 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 court de moi vers l'intérieur du lieu*
my friend run.PRES of me toward the=interior of.the place
de détente.
of relaxation
'My friend runs from me toward the inside of the rest place.'

A difference between the two languages is the (non-)verbalization of the speaker. Deictic verbs that are frequent in Japanese implicitly refer to the speaker, while setting phrases and prepositional phrases that are frequent in French involve explicit references to the speaker.

A similar result is observed for the scenes where the Figure moves toward the speaker, as shown in Table 2.

4. The denominator is fixed to 198 for Japanese and 234 for French. If all participants responded *venir vers moi* 'come toward me', for example, then the total percentage would be 200% because every participant specified the Deictic relation twice. In the "away from the speaker" scenes in Japanese and the "toward the speaker" scenes in both languages, a percentage of more than 100% means that many of the participants specified the Deictic relation in question more than twice.

Table 2. Morphosyntactic elements expressing "toward the speaker"

	Main verb	Adpositional	Others	Total	Non-specification
Japanese	100.5% (N = 199)	42.9% (N = 85)	11.1% (N = 22)	152.5% (N = 302)	0% (N = 0)
French	19.7% (N = 46)	89.7% (N = 210)	30.3% (N = 71)	139.7% (N = 327)	7.3% (N = 17)

Table 2 shows that Japanese speakers always used the Deictic verb as in *hait-te kuru* (enter-CVB come), without verbalizing the speaker. Compared with French data, Deictic verbs are clearly more frequent in Japanese (χ^2 = 170.93, p < .00, df = 1). Conversely, the predominant pattern in French is the use of the prepositional phrase *vers moi* 'toward me', which is more frequent than the postpositional phrase in Japanese (χ^2 = 82.90, p < .00, df = 1).

Again, this difference is characterized by the (non-)existence of the pronominalized speaker in a sentence. Though adpositional phrases require a personal pronoun, Deictic verbs do not.

2.3.2 *Different extension of the speaker's "here" space in neutral motion*

In the results presented thus far, the Japanese Deictic verbs and French prepositional phrases achieve the same function of describing the same physical events, despite the difference in the predominant ways of expressing Deixis. However, in the descriptions of neutral motion events, the different strategy for expressing Deixis, that is, the (non-)verbalization of the speaker, gives rise to an interesting difference.

Table 3. Morphosyntactic elements expressing "neutral direction"

	Main verb	Adpositional	Others	Total	Non-specification
Japanese	87.9% (N = 174)	4.5% (N = 10)	6.1% (N = 12)	98.5% (N = 196)	14.1.% (N = 28)
French	9.8% (N = 23)	15.8% (N = 37)	30.8% (N = 72)	56.4% (N = 132)	53.0% (N = 124)

In the same way as the scenes of "away from the speaker" (Table 1) and those of "toward the speaker" (Table 2), Japanese speakers use many more Deictic verbs than French speakers (χ^2 = 164.44, p < .00, df = 1). In the neutral scenes, the figure moves right to left or left to right, and Deictic verbs are *iku* and *aller* as a rule, which can describe not only the direction "away from the speaker," but also directions irrelevant to the speaker. However, among three examined Path types, TO, INTO, and UP, an interesting difference is found in the INTO scenes: Japanese speakers used both *iku* and *kuru* to describe the neutral INTO situations (*iku* 20 instances, *kuru* 40 instances).

In these scenes in question, the figure moves from right to left, crossing the boundary of a pavilion in a certain manner (i.e., walking, running, or skipping), and the speaker observes this motion from the periphery of the pavilion (i.e., the camera is positioned on a boundary of the pavilion). The detail is illustrated in Figures 1 and 2: Figure 1 describes an observed scene by the speaker, and Figure 2 is the schematic plane view of this situation.

Figure 1. Observed scene

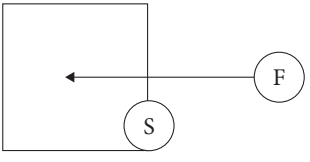

Figure 2. Schema of neutral INTO motion. F stands for Figure and S for Speaker

(7) *Tomodachi=ga kyuukeijo=ni hashit-te hait-te* {*it-ta/ki-ta*}.
friend=NOM pavilion=DAT run-CVB enter-CVB go-PST/come-PST
'A friend went/came into the pavilion, running.'

In (7), when speakers feel that they share the same internal space of the pavilion with the Figure, *kuru* is used. When they consider the motion irrelevant to them, *iku* is chosen. Both verbs are irrelevant to the truth conditions, and they do not pertain to the physical direction, but to a more functional speaker-Figure relation in terms of possible interactions or sharing of the same space (cf. Matsumoto et al. 2017). In other words, the choice of one of the Deictic verbs depends on how speakers carve up their meaningful space and decide their "here" space (cf. Enfield 2003).

This extensional expression of Deixis with Deictic verbs is thus very frequent in Japanese (among 66 potential responses for the neutral INTO clips, 60 responses contain one of the Deictic verbs), and while not impossible, it is quite infrequent

in French. In Table 3, "adpositional phrases" include only *en face de moi* or *devant moi* 'in front of me', which is faithful to the speaker's physical arrangement with respect to the Ground (see Figure 2). Here, *vers moi* 'toward me' or (*s'éloignant*) *de moi* '(going) from me' cannot be used, because they are simply not true. The use of Deictic verbs is almost completely restricted to the andative verb *aller*, which can describe the direction irrelevant to the speaker, and the venitive verb *venir* is exceptional (only two instances in the neutral INTO scenes, out of 23 in Table 3).

2.3.3 *Verb versus adpositional phrase, or functional versus spatial Deixis*

Thus, a semantic difference between Deictic verbs and Deictic adpositional phrases resides in the fact that the Deictic verbs can express a functional meaning concerning the speaker-Figure relation, while adpositional phrases containing the first-person pronoun cannot. The data presented thus far indicate that Japanese speakers mainly used Deictic verbs that may include functional meanings, and French speakers use prepositional phrases faithful to the physical direction. Two questions arise. First, why is there such a difference between verbs and pronouns, and second, what consequences arise from this distributional difference between the two languages?

Matsumoto et al. (2017) has already noted the absence of the functional nature in Deictic prepositional phrases, proposing two possible reasons for this. One is the semantic nature of verbs. In addition to one component of motion such as Manner, Path, or Deixis, motion verbs often encode some aspects of motion accompanying this component, such as the psychological state of the Figure. The other is the transparency of directionality. Prepositional phrases are transparent in their expression of directionality, while Deictic verbs are not. To this second argument, I would like to add the effect of the (non-)verbalization of the speaker. Deictic verbs and personal pronouns are both indexical, as they need to refer to the speaker's position in space to determine the truth conditions or appropriateness of a sentence containing them. However, adpositional phrases with the first-person pronoun impose more rigid constraints on the speaker's position in space, because the speaker is verbalized and objectified (cf. Langacker 1990). In other words, when the speaker is explicitly referred to, s/he is physically positioned in space. This is the case even for Japanese: a postpositional phrase such as *watashi=no hoo=ni* 'in my direction' or *watashi=no tokoro=kara* 'from my place' cannot be used to describe neutral motion. With Deictic verbs, on the other hand, the speaker is more implicitly expressed, which allows for the functional or psychological extension of the speaker's "here" space.

The predominant strategy to express Deixis clearly differs between Japanese and French, and this difference seems to result in different conventions according to which speakers manifest their relation to perceived events. Japanese has complex

predicates including Deictic verbs, and this characteristic conventionally compels Japanese speakers to express their stances to the perceived events; for example, whether a perceived event is relevant to the speaker, whether the speaker shares a space with the Figure, and so forth.

On the other hand, a handful of French speakers used *venir* when expressing the meaning of sharing a space with the Figure, and this use is not natural.[5] This means that certain French speakers acknowledge the functional use of *venir* and used it in the experiment, but for many other speakers, *venir* does not have this use. In French, the three types of verbs – Path, Manner, or Deictic verbs – compete for the main verb slot, and therefore the low frequency of Deictic verbs itself is not surprising; when a Path verb or Manner verb is used as the main verb, Deixis must be expressed elsewhere. It is important to note that this low frequency of Deictic verbs is in parallel with an immature conventionalization of their functional use. That is, given a fully-fledged functional use of Deictic verbs in Japanese and its unconventional use in French, the predominant strategy for expressing Deixis seems to have a close relation to the potential of expressing functional meanings of Deixis.

3. General discussion

3.1 Is Deixis still a component of Path?

We now discuss the (in)dependence of Deixis in the typological framework. As explained in 1.1, in opposition to Talmy's proposal that defines Deixis as a subcomponent of Path, some previous studies analyzed it separately from the other non-Deictic Path components. What then is the typological status of Deixis? For this question, two answers can be conceived: one is to discriminate Deixis as an independent component from the other non-Deictic Path components, and the other is to investigate the theoretical significance of analyzing Deixis separately within the current framework, that is, maintaining the status of Deixis as a subcomponent of Path.

If only spatial Deixis was counted as Path, to the exclusion of the functional use of Deictic verbs, Japanese would be categorized into a third or fourth type of language, wherein the speaker's viewpoint is expressed in the main verb and Path in

5. During the NAMED workshop (May 2017, Paris), many participants agreed with the judgment that such a use of *venir* is unnatural.

a subordinate verb, thus differing from both satellite- and verb-framed languages.[6] In addition, given that a Deictic verb may commute with an adpositional phrase in some contexts, the same Deictic verb would be analyzed as a Path component (spatial Deixis) in some cases and as a non-Path component (functional use) in others, rendering the typology highly complex. As a minimum, a criterion for distinguishing the spatial Deictic meaning from the other uses would be needed. The first solution is therefore not desirable.

The second solution we propose is to treat even the functional meaning of Deixis as a component of Path and to look for the significance in analyzing Deixis independently from other Path components within the current typological perspective. In fact, when a Figure moves in an open space from left to right and there is no space that can be shared between the speaker and Figure, such as in the neutral TO or UP scenes, even Japanese speakers used only the andative Deictic verb *iku* 'go'. In this sense, the functional use of Deictic verbs is motivated by the physical arrangement of the speaker, Figure, and Ground. In other words, the functional meaning of Deictic verbs is based on the extension of the speaker's "here" space, and this extension is physically conditioned. Typically, of course, the speaker's "here" space is the position of the speaker, but it can be extended depending on, for example, the degree of intimacy between the speaker and Figure, whether there exists a sharable space, and so forth. This functional extension is not universal, but conditioned by language or culture; all Deictic verbs in all languages do not have the same functional meaning. As far as Japanese and French are concerned, Japanese Deictic verbs can express a broader speaker's "here" space than French ones.

Following this solution, the current typology can be maintained and the complexity that the first solution may trigger can be avoided. However, the semantics of Deixis are not only spatial, and Talmy's statement that "the Deictic is thus just a special choice of Vector, Conformation, and Ground, not a semantically distinct factor" (Talmy 2000: 138) must be modified, because speakers' relation to these spatial components can vary according to their conception of "here" space. This can be a semantically distinct factor.

6. If Slobin's proposal of equipollently-framed languages (cf. Slobin 2004) is included in addition to the dichotomy of satellite- and verb-framed languages, a fourth category will be needed.

3.2 Toward another typology through investigations of Deixis

What is the significance of analyzing Deixis independently from other non-Deictic Path components? If Deixis is still a component of Path, analyses of Deixis would lead to a mere sub-categorization of the current verb-framed languages. It will not be interesting to call a genuine non-Deictic Path "Path 1" and Deixis "Path 2." The answer to this question is the proposition of another typology, maintaining the current typological framework.

Motion event descriptions are not a direct reflection of perceived physical events, but a linguistic reconstruction of such events by speakers. This reconstruction leaves speakers room to decide how to express their relation to perceived motion events. Investigations into Deixis can elucidate different expression patterns of speakers' commitment to the perceived events across languages. This is a proposition of a weak hypothesis of linguistic relativity on cultural differences based on different linguistic constraints (cf. Jakobson 1959). Possible and frequent expression patterns conventionalize not only which aspects of perceived events are to be verbalized (cf. Slobin 1996), but also how speakers manifest their relation to the perceived events. As far as this chapter is concerned, Japanese and French speakers take conventionally different approaches to how they construct and express their relation or their "here" space vis-à-vis perceived physical motion events. As a typology based on Deixis, it is conceivable that speakers of a language that is abundant in the use of Deictic verbs may be compelled to express their relation to perceived events, while speakers of another language that predominantly uses the first-person pronoun do not necessarily manifest their stance to perceived events.

This proposition opens broader perspectives on the analyses of Deixis in other macro events. It is not impossible to speculate that Deictic verbs can be used for other macro events, but explicit expressions of the speaker do not seem possible. For example, Deictic verbs can be used together with certain verbs of a change of state in Japanese: *penki=ga hagare-te iku/kuru* 'paint=NOM peel-CVB go/come, the paint is peeled', *ki=ga kare-te iku/kuru* 'tree=NOM wither=CVB go/come, trees wither', and so forth. For these events, expressions containing the first-person pronoun such as *watashi=no hoo=ni* 'toward me' cannot be used.

French Deictic verbs are often analyzed with regard to their periphrastic usage as temporal markers (cf. Bourdin 2005), but their extensional use is not limited to the temporal domain. For example, a contrast between *si j'allais disparaître* and *si je venais à disparaître* 'If I were to disappear' pertains to a different speaker's viewpoint or psychological state, rather than to a temporal difference, which cannot be expressed by *vers moi* 'toward me' or *de moi* 'from me'.

Given these possible expressions of Deixis in other macro events than the motion events, the differing frequency of Japanese and French Deictic verbs in motion

event descriptions is not a reflection of the simple distinction between subjective and objective languages proposed by some previous studies (Ikegami 2015, Uehara 2006, *inter alia*). Studies on Deixis in other macro events will enable us to understand how speakers construct their relation to various events, and these analyses will further prove the significance of treating Deixis independently from other non-Deictic Path in motion or framing components in other macro events.

4. Conclusion

In this chapter, we have argued that Japanese and French differ in their conventional expression patterns of Deixis, and Deictic expressions with a personal pronoun are faithful to the physical direction, while those that do not contain a verbalized speaker can express a more functional or psychological meaning. Recognizing Deixis as a component of Path, this difference pertains not to the direct reformulation of the current typology, but to another typology of how speakers of different languages conceptualize and express their "here" space. As for Japanese and French, Japanese speakers express more frequently perceived motion events as relevant to them, and this tendency seems motivated by the predominant expression pattern of Deixis: Deictic verbs. French speakers, on the other hand, predominantly express Deixis with prepositional phrases or contextual expressions containing the first-person pronoun, and they tend to describe perceived motion events as irrelevant to them. Although other methodologies will be needed to delve further into the level of conceptualization or genuine cognition, analyses of Deictic verbs allow us to find the speaker's "here" space that is variable across languages.

This conclusion is a further hypothesis for future studies, the validity of which needs to be verified in other macro events beyond motion events. It is often said that motion is a basic experience on which more abstract events are based and understood. Studies on Deixis in other macro events will elucidate various speakers' relations to these events, which may be similar or different to motion events.

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Abbreviations

ABL	ablative	HON	honorific
CVB	converb	NOM	nominative
DAT	dative	PST	past
GEN	genitive	REL	relative pronoun
GER	gerund	TOP	topic

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CHAPTER 3

Linguistic representations of visual motion

A crosslinguistic experimental study

Yo Matsumoto[1], Kimi Akita[2], Anna Bordilovskaya[3], Kiyoko Eguchi[4], Hiroaki Koga[5], Miho Mano[6], Ikuko Matsuse[7], Takahiro Morita[8], Naonori Nagaya[3], Kiyoko Takahashi[9], Ryosuke Takahashi[10] and Yuko Yoshinari[11]

[1]NINJAL / [2]Nagoya University / [3]University of Tokyo / [4]Osaka University / [5]Keio University / [6]Naruto University of Education / [7]Center for Newar Studies / [8]Kyoto University / [9]Kanda University of International Studies / [10]Sophia University / [11]Gifu University

Linguistic expressions of visual motion (e.g., *look into the building*) in ten languages are compared, based on a crosslinguistic production experiment. We examine how linguistic representations of visual motion are typologically akin to those of self- and caused motion events. The results suggest that speakers frequently refer to path in describing visual motion events, using the "Implicit-figure construction", where no overt argument of V moves. Head-external path-coding languages allow path to be expressed similarly to how it is expressed in descriptions of self- and caused motion events, whereas head path-coding languages use different strategies. For visual motion, the use of path verbs and deictic verbs is avoided in most languages. Patterns of the representation of visual motion thus reveal a wider range of crosslinguistic variations in describing motion events than previously thought.

Keywords: deixis, fictive motion, Implicit-figure construction, path, typology

1. Introduction

One of the so-far relatively neglected aspects of motion-event description in recent studies is the expression of "fictive motion" of vision. It has been argued since Gruber (1967) that expressions of vision often involve some sort of motion. In English, for example, path prepositional phrases can occur with verbs of vision, as shown in (1).

(1) *Bill looked into a room.*

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Talmy (1996) argues that fictive motion is involved in examples like (1). There are several types of fictive motion, and Talmy (1996, 2000) names the type involved in (1) "emanation type", a term which covers not just vision sentences like (1) but also other sentences involving the motion of light, sound, shadow, etc. In this chapter we will use the term "visual motion," since we will be concerned with vision examples only.

Sentences like (1) appear to be motivated by our understanding of a gaze leading from our eyes to the target of visual attention. Linguistic expressions involving such visual motion have been studied in several languages by Takahashi (2000), Matsumoto (2001, 2004, 2017a, 2020), Slobin (2009), Cifuentes-Férez (2014), Ma (2016), Cappelle (2020), Kawachi (2020), and Wnuk (2021).

The purpose of this chapter is to examine linguistic representations of visual motion in terms of the typology of motion event descriptions (Talmy 1991, 2000, 2009; Slobin 2004; Matsumoto 2003, 2017b, 2020; Matsumoto and Kawachi 2020). More specifically, we will examine whether expressions of visual motion show the same typological properties as those exhibited in descriptions of other, more typical motion events. The data for analysis comes from a crosslinguistic experimental study (NINJAL Project of Motion Event Descriptions across Languages (MEDAL)).

One thing that needs to be made clear in the discussion in this chapter is the distinction between event types and construction (representation) types. There are three major types of linguistic constructions which represent (actual and fictive) motion: the Figure-subject construction, the Figure-object construction, and the Implicit-figure construction, exemplified in (2) through (4).

(2) Figure-subject construction: Subject moves
   a. *The balloon went up*.
   b. *Susan ran into the house*.

(3) Figure-object construction: Object moves
   Natalie kicked the ball into the house.

(4) Implicit-figure construction: No overt argument of V moves
   Bill looked into a room.

These three linguistic constructions are typically used to represent (a) self-motion events, which include spontaneous motion (as in (2a)) and self-agentive motion (as in (2b)), (b) caused motion events (as in (3)), and (c) visual motion events (as in (4)). However, these event types are not always represented by the constructions typically associated with them. Caused motion events, for example, can be expressed in the Figure-subject construction, as in (5).

(5) *The napkin blew away.*

More importantly for this chapter, the fictive motion of vision can be expressed by all three different constructions as exemplified in (6).

(6) a. *My eyes fell on the floor.*
b. *I gave a quick glance into the room.*
c. *I looked into a room.*

Our interest in this chapter is the use of the Implicit-figure construction like (6c) in describing visual motion events.

The Implicit-figure construction has a verb of vision and an expression representing the path of an unexpressed entity. However, the use of a verb of vision does not necessarily entail the use of a path expression, or the description of the fictive motion of vision. One can use a verb of vision without fictive motion. A language can have different verbs of vision, some allowing path phrases to co-occur (e.g., *look into the bag*), others not allowing them to co-occur (e.g., **watch into the bag*). When the language allows both options, which verb type to use is up to the choice of the speaker.

2. Issues in the representations of visual motion

Visual motion is interesting for the discussion of motion event descriptions in several respects. One issue is whether the typology of motion event descriptions based on the description of self- and caused motion (Talmy 1991, 2000, 2009; Slobin 2000, 2004; Matsumoto 2003, 2017b, 2020) applies to the description of visual motion. Some differences have already been suggested. Verb-framed languages of Talmy (1991, 2000) or head path-coding languages of Matsumoto (2017b, Matsumoto and Kawachi 2020) have a set of motion verbs coding path (e.g., 'enter', 'ascend') and use them in the main verb position in the description of self- and caused motion. However, very few languages are known to possess verbs of vision coding path (e.g., 'look up' in one root), which would allow the path to be expressed in the main verb position (see Slobin 2009; Matsumoto 2020; Wnuk 2021 for some exceptions). Some languages have verbs representing the change of the direction of one's face before or while looking (e.g., *aog* 'raise one's face' in Japanese), but they are not verbs of vision. (Path is involved in some way in 'peep' verbs of some languages, which will be discussed in Section 3.2.) Many languages that typically code path in the main verb in describing self- and caused motion instead shift to a pattern of coding path in other positions when it comes to the description of visual motion (see Matsumoto 2001,

2020; Slobin 2009; Kawachi 2020). In this chapter we examine whether speakers describe path of vision in the head (main verb) of a sentence or elements external to the head (e.g., satellites, adpositions, case markers).[1]

At the same time, those languages that shift their path-coding patterns this way are claimed to retain some of their typological properties even in the description of visual motion. It is suggested (e.g., Cappelle 2020) that speakers of languages that normally code path in the main verb often resort to the use of the Figure-object construction to describe visual motion (e.g., *lever le regard* 'raise one's gaze' in French), keeping their typologically typical coding position of path by the use of a causative path verb.

Slobin (2009) has shown that verb-framed (or head path-coding) languages that he looks at do not exhibit multiple path phrases occurring with a verb of vision, unlike satellite-framed (or head-external path-coding) languages such as English (e.g., *look through the window into the darkness*). He argues that this reflects their typological characteristic, given that those languages arguably use a smaller number of path phrases per clause in representing self-motion (Slobin 1996, 2000), although some languages of this type are known to use them often (e.g., Basque; see Ibarretxe-Antuñano 2009). Cappelle (2020) also points out that French speakers are less prone to use multiple path phrases in describing visual motion than do Dutch speakers, and attributes this to the general difference between verb-framed (head path-coding) and satellite-framed (head-external path-coding) languages.

A related issue is whether speakers of different languages tend to indicate path at all (i.e., not just complex paths but paths in general) when they describe visual events. In his corpus study, Matsumoto (2017a) observes that verbs of vision in Japanese occur much less often with path expressions than do those in English. It is yet to be determined whether these observations are general patterns of the verb-framed (or head path-coding) languages.

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1. The distinction between head path-coding and head-external path-coding languages (Matsumoto 2017b, Matsumoto and Kawachi 2020) is different from Talmy's distinction between verb-framed and satellite-framed languages in several ways. One important difference is that "head-external" elements cover a wider range of forms than satellites by including adpositions, case markers, and other forms that are not modifiers of a verb root. Another important difference is that the head/head-external distinction is not restricted to the descriptions of "macro-events" in which a core event of motion is integrated into a clause with a co-event that is related to the core event in some way (e.g., a subevent representing the manner of motion). Thus, the sentence *He entered the room* is head path-coding, while it is not verb-framed, since no manner is expressed. The two classifications differ in the categorization of languages like Tagalog, which exhibits different coding position of path depending on the presence/absence of manner. This being said, we indicate where the "verb-framed/satellite-framed" distinction and the "head path-coding/head-external path-coding" distinction roughly overlap in the exposition that follows.

Finally, one may discuss expressions of deixis in relation to the description of visual motion. Deixis is attracting increasing attention in research on the description of motion events (e.g., Filipović 2010; Ibarretxe-Antuñano and Hijazo-Gascón 2012; Matsumoto, Akita and Takahashi 2017; Matsumoto and Kawachi 2020; Matsuse 2020; Bourdin, this volume; Morita, this volume; Lamarre et al., this volume). The kind of deixis discussed in relation to motion events is what Lamarre et al. (this volume) call "dynamic deixis", i.e., how the motion is directed relative to the space where the speaker is located. In this discussion of motion events, we take (dynamic) deixis to be a property of the trajectory along which a figure travels, and it is the combination of path and a very special ground; for example, the 'venitive' meaning in *come* involves the path TO and the speaker's space as the most typical ground. In some languages the way deixis is expressed in describing motion is different from such path notions as TO, UP, and INTO (the combination of TO and IN). In the Tibeto-Burman language Newar, for example, in the description of both self- and caused motion, deixis is expressed in the main verb position while path is expressed in case markers, postpositions, or adverbs (Matsuse 2017, 2020). Deixis is also interesting in that languages vary considerably in the frequencies with which they indicate it in the descriptions of a motion event (Akita, Matsumoto and Ohara 2010; Matsumoto, Akita and Takahashi 2017; Koga 2017). Some languages such as Newar and Japanese are deixis-rich in the description of self-motion, very often using the main verb position to describe the relative direction of motion with respect to the speaker (Matsuse 2017, 2020; Matsumoto 2017a).

Visual motion has deixis just as other motion events do: Visual motion can be directed toward the speaker, away from the speaker, or be neutral with respect to the speaker. It is worthwhile to examine whether languages code deixis in the description of visual motion in the same position as in the description of self- and caused motion, and how often their speakers choose to code it.

These questions are the focus of the experiment.

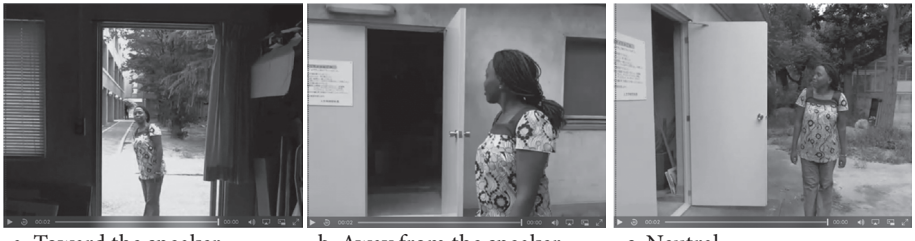
3. Experiment and the languages examined

3.1 Method

This study is based on the data from Experiment A of the MEDAL project. This experiment uses 52 video clips depicting various motion events shown on a computer screen. Speakers are asked to describe the events shown in the video.

Most of the clips in this experiment concern self- and caused motion events, the results of which are discussed elsewhere (e.g., Matsumoto 2014). In this chapter, we will focus on the results of three video clips which are used to elicit descriptions

of visual motion. In these clips a female person looks through an open door into a small building in three deictic situations: (a) the person looks *toward the speaker* (i.e., the camera is in the small building); (b) the person looks *away from the speaker* (i.e., the camera is near the person outside the small building); and (c) the person looks sideways as seen from the speaker, or in a deictically *neutral* way (i.e., the camera angle is orthogonal to the vector of gaze). Screenshots for each of the situations are given in Figure 1.



a. Toward the speaker b. Away from the speaker c. Neutral

Figure 1. Screenshots from the three video clips used in the experiment

We report results from ten languages. The name of each of those languages, the language group it belongs to, the researcher(s) in charge, and the number of informants are as follows: English (Germanic; Akita, Mano, Matsumoto; $N = 23$); German (Germanic; R. Takahashi; $N = 20$); French (Romance; Morita; $N = 26$); Italian (Romance; Yoshinari; $N = 15$); Russian (Slavic; Bordilovskaya; $N = 20$); Hungarian (Finno-Ugric; Eguchi; $N = 15$); Japanese (Japonic; Koga and Yoshinari; $N = 22$); Kathmandu Newar (Tibeto-Burman; Matsuse; $N = 24$); Thai (Tai-Kadai or Kra-Dai; K. Takahashi; $N = 15$); and Tagalog (Austronesian; Nagaya; $N = 10$).

3.2 Languages examined

Of the ten languages examined, English, German, Russian, Hungarian, and Kathmandu Newar have been categorized as satellite-framed languages (in the terminology of Talmy 2000) or head-external path-coding languages (in the terminology of Matsumoto 2017b and Matsumoto and Kawachi 2020), coding path in such head-external elements as verb affixes, adverbs, adpositions, and case markers (see Talmy 2000 and Slobin 2004 for English, German, and Russian; Hasko 2010 for Russian; Eguchi 2017 for Hungarian; Hargreaves 2004 and Matsuse 2017, 2020 for Newar). French, Italian, and Japanese have been categorized as verb-framed (or head path-coding) languages (see, for example, Kopecka 2004, 2006 and Morita and Ishibashi 2017 for French, Yoshinari 2017 for Italian; Matsumoto 1997, 2017a, 2018 for Japanese; see

also Iacobini and Fagard 2011 for Romance languages in general), in which path is coded in the main verb (or the head), although those languages also allow path to be coded in head-external elements under certain circumstances (see Aske 1989, Talmy 2000, Kopecka 2004, Matsumoto 2018). Finally, Thai has been categorized as separate from these two types, and it is often called an equipollently framed language (or "co-head" path-coding language) (Slobin 2004; see also Zlatev and Yangklang 2004, Takahashi 2017, 2020); Path in Thai is coded in a path verb used in a serial verb construction, in which a manner verb and a path verb have equal status, "co-heading" a clause. Representative examples from Newar, French and Thai are given in (7). Note that French and Thai have prepositions encoding the notion of 'in(to)' in addition to verbal means.

(7) a. Kathmandu Newar
*Pāsā sata: **dune** bwāẕe wala.*
friend rest.house into run come.PST
'A friend came running into the resthouse.'

b. French
*Il **entre** **dans** la maison en courant.*
he enter.PRS in(to) the house run.GER
'He enters the house, running.'

c. Thai
*phûan wîŋ **khâw** paj **naj** thîi phák.*
friend run enter go in place rest
'My friend runs into the resthouse.'

The typological status of Tagalog has not been treated in previous research but Tagalog appears to belong to a shifting type that frequently employs both head and head-external positions to code path, using the main verb only in the absence of manner (head path-coding without a co-event). When manner is expressed, as in (8a), Tagalog predominantly uses a preposition-like *pa*-marked participial verb and other head-external elements to represent path. At the same time, Tagalog frequently omits manner and in that case uses path verbs in the main verb position, as in (8b).

(8) Tagalog
a. *Nag-lakad siya pa-pasok sa pavilion.*
AV.RL-walk 3SG.NOM PTCP-enter LOC pavilion
'He/she walked into the pavilion.'

b. *P<um>asok ang kaibigan ko sa pavilion.*
<AV>enter NOM friend my LOC pavilion
'My friend entered the pavilion.'

Each of the ten languages under investigation has more than one verb representing vision. Many verbs of vision in those languages can take a path phrase (an adpositional phrase or a nominal with a spatial case) as their complement (e.g., English *look*, German *schauen*, French *regarder*, Italian *guardare*, Russian *glyanut'*, Hungarian *néz*, Tagalog *silip*). One may note that German *schauen*, French *regarder*, Italian *guardare*, and Tagalog *silip* alternatively take a grammatical object nominal as their complement. Japanese *mi* 'look' selects an accusative marked object to represent the visual target and cannot occur with a goal postposition (though it can occur with a source postposition). Thai *mɔɔŋ* 'look' can be used with a path verb as a part of a serial verb construction.

None of the languages examined have a clear case of path-incorporating verbs of vision (e.g., 'look up', 'look into'). The 'peep' verbs in these languages encode manner of looking (e.g., 'secretively', 'with interest'), with the path of vision (e.g., 'through', 'into') coded additionally in some cases. The manner component 'secretively' rather than the path 'into' plays the central role in the case of English *peep*, given that it can be used in sentences like *I peeped at the boss's computer* or *peeped from behind his shoulder*. We regard this verb as not encoding path. In the case of Japanese *nozok* 'peep', the path meaning ('through (a gap)') is prominent, but in this verb, too, the use is restricted to the case where one looks at something through a gap with interest: one cannot use this verb when one gazes blankly through a window. The path meaning in such verbs is thus coupled with a manner meaning, and will be treated separately from clear path coding in the discussion below.

4. Results and discussion

We now present our data and discuss them with respect to five major points.

4.1 Reference to path

The first question is to what extent our informants linguistically represented the path of vision. As pointed out above, languages might exhibit differences in how often they exploit the fictive motion of gaze to describe visual events. Responses to the three stimuli in Figure 1 are aggregated and categorized with respect to the expression of path. Figure 2 gives the percentages of (a) responses with any form representing path, (b) responses with forms representing the location of the visual target only, (c) responses without any path or location information. It shows that in all languages, visual events are described in terms of motion more than 70% of the time, except for Japanese and Tagalog.

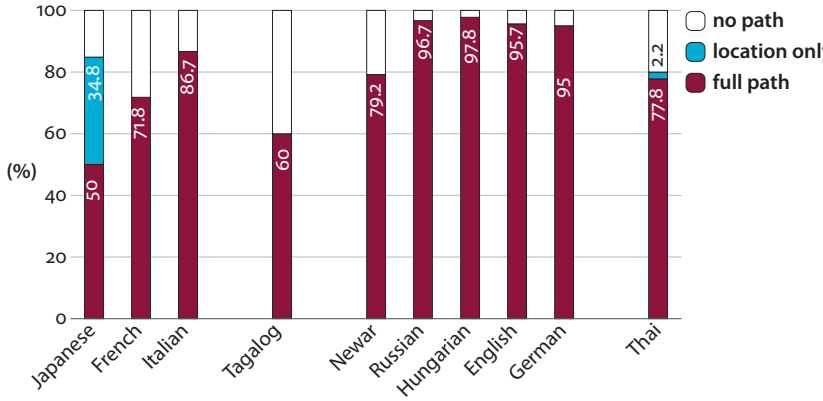


Figure 2. Percentages of responses with some reference to path

Here we are disregarding the path meaning coded in 'peep' verbs. If we include it, then the "full path" specification is 68.3% in Japanese. The percentages of path responses in other languages remain the same.

There was a significant difference among languages in terms of the presence/absence of the reference to path ($\chi^2(9) = 92.2$, $p < .001$). Significantly higher percentages of path reference was found for Russian, Hungarian, English, and German (*Radj* = 3.19, 2.92, 3.22, 2.84, respectively, all significant at the $p < .01$ level by residual analysis), all of which are head-external path-coding languages and use the same kinds of path-indicating devices in describing visual motion as are used in describing self- and caused motion. Russian, for example, uses verb prefixes and prepositions, as in (9).[2]

(9) Russian
Devushka ***za****-glyanula* ***ko*** *mne* ***v*** *dver' zdaniya.*
girl into-look.3SG.F.PST to me into door building
'The girl looked into the building at me.'

No Russian speaker adopted a construction in which the visual target is described in the position of an accusative-marked object, though such a verb exists in the language (e.g., *videt'* 'see').

Significantly lower percentages of path reference were observed for Tagalog (*Radj* = −3.13, $p < .01$ by residual analysis), French (*Radj* = 2.40, $p < .05$) and Japanese

2. The particular verb prefixes used with a verb of vision are often different from those used in the description of self-motion, since verbs differ in the range of prefixes they can take. Although the verb *bežal* 'run' selects either *za-* or *v-* for indicating the INTO path, the verb *glyadet'* 'look' usually selects for *za-*.

(*Radj* = −7.04, $p < .001$). Tagalog descriptions of looking into the building toward the speaker quite often involve the first-person pronoun as an argument of a verb of vision, as in (10), without any indication of path. Such responses account (in part) for the comparatively low percentage of references to path in this language as seen in Figure 2. (The same verb can alternatively occur with path phrases).

(10) Tagalog
S<in>ilip ako ng babae.
<PV.RL>look 1SG.NOM GEN woman
'The woman looked at me.'

Also in French, visual targets were often described by an object nominal without path marking, as in (11a), an alternative to a description using a prepositional object with path expressed, as in (11b).

(11) French
a. *Elle regarde la porte.*
She look.3SG the door
'She looks at the door.'
b. *Elle regarde à l'intérieur du bâtiment.*
she look.3SG inside of.the building
'She looks into the building.'

Japanese, which also showed a low percentage of reference to path, presents a different pattern. This language does not have any verb of vision that can take a goal-marking postposition; a visual target must occur as an accusative-marked object. However, Japanese has other ways to indicate path or at least the location of the visual target. Japanese can use a path verb as a part of a compound verb, as will be seen in the next section. In addition, the location of the visual target (i.e., Talmy's (2000) conformation) can be expressed as a part of the object nominal. In the Japanese example (12), the location of the visual target is expressed by the location noun *naka* 'inside'.

(12) Japanese (Location only)
Heya-no naka-o mi-ta.
room-GEN inside-ACC look-PST
'(She) looked at the inside of the room.'

This indication of location was used in 75.8% of all the responses in Japanese. In 34.8% of all the responses, such an indication of location is not accompanied by the indication of path, as in (12); the percentage of such responses is given under "Location only" in Figure 2.

Thus, the extent to which path is referred to in the description of vision events depends on the availability and adoption of an option in which a visual target is described with a goal marking device, rather than in the object nominal. It is not entirely clear whether higher frequencies of reference to path are correlated with the typological differences of path-coding positions; some head path-coding languages such as French and Japanese do not indicate path often, but neither does Newar. The tendency not to indicate path is also seen in Tagalog, which is a shifting type.

4.2 Choice of construction

The next question concerns the constructions used to represent visual motion. How often do speakers use the Implicit-figure construction? Do they often use the Figure-object construction, as Cappelle (2020) argues? In our results, the use of the Figure-object constructions to represent visual motion was quite rare: 2.6% of all responses in French, 6.7% in Italian, 1.7% in German, and none in the other languages. None of those responses had a causative path verb as the main verb. French and Italian examples are given in (13).

(13) a. French
Elle jette un œil à travers la porte.
she throw.3SG a glance through the door
'She throws a glance through the door.'

b. Italian
Ha dato un'occhiata dentro lo sgabuzzino.
have.3SG give.PRF.PTCP quick.look in(to) the storage.room
'He/she gave a quick look into the storage room.'

All the other responses with path involve the verb of vision as the head of the sentence.

This result does not support Cappelle's (2020) claim that French speakers often resort to the Figure-object construction with causative verbs to represent visual motion. An examination of his examples also suggests that the use of the Figure-object construction is not necessarily related to the preferred tendency to indicate path in the main verb. The examples Cappelle give include the following: *détacher le regard* 'detach the gaze (= take an eye off)', *fixer les yeux* 'fixate the eyes', *jeter un coup d'œil* 'throw a stroke of (the) eye', *jeter un regard* 'throw a glance', and *lever les yeux* 'raise the eyes'. Many of these examples in fact involve causative verbs which do not encode path (e.g., *jeter*).

4.3 Coding position of path

Figures 3 and 4 give the path-coding positions in the responses from the ten languages examined. Only responses with a verb of vision are considered here (i.e., excluding examples of the Figure-object construction and sporadic responses without any description of a vision event; e.g., *A lady is standing at the door*). Figure 3 describes the percentages of responses in which path is indicated by the head (main

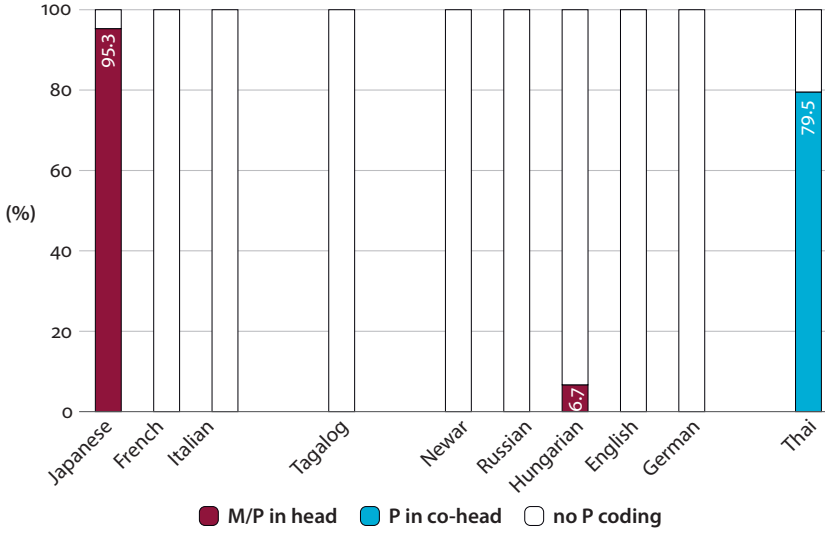


Figure 3. Path coding in heads or co-heads

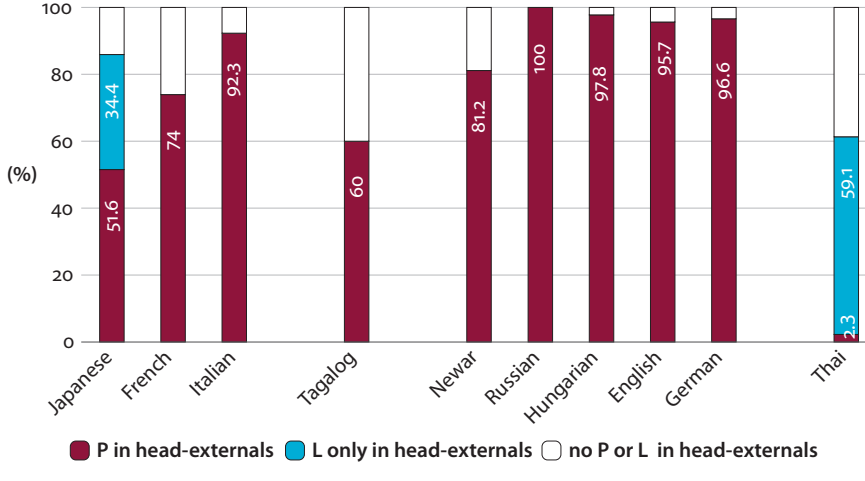


Figure 4. Path coding in head-external elements

verb) or a co-head (serial verb). The use of a 'peep' verb containing a manner and a salient path meaning (Japanese *nozok* and Hungarian *kukucskál*) is also indicated (M/P). Figure 4 describes the percentages of responses in which path is indicated by head-external elements. The percentages of the responses in which only location is indicated in head-external elements are also given. Almost all of the responses in Japanese involved the verb *nozok* 'peep' rather than general *mi* 'look'. In Thai, path was indicated by a co-head but the location IN was additionally indicated by a preposition (L only in head-externals), which represents the path INTO in combination with a deictic verb preceding it.

Speakers of head-external path-coding languages used the same kinds of path-coding devices, such as particles, verb suffixes, and adpositions to represent path, as used in describing self- and caused motion, as in the Russian example in (9).

In Tagalog, the notion INTO is expressed in two ways in the description of self-motion and caused motion: in a preposition-like participial verb *pa-pasok*, based on *pasok* 'enter', to introduce an adjunct, as in (8a) above, or in a locativized nominal (a locative marker + a locational noun; e.g., *sa loob* (LOC inside)) to introduce an argument of a verb. The latter was used in the description of visual motion, as in (14).

(14) Tagalog
T<um>ingin siya sa loob ng pintuan.
<AV>look 3SG.NOM LOC inside GEN door
'He/she looked inside the door.'

The speakers of Thai used the same serial verbs in describing visual motion as used in the descriptions of self- and caused motion (see Takahashi 2000, Matsumoto 2020). An example is given in (15), which can be compared with the Figure-subject construction in (7c). In both (15) and (7c) the path INTO is indicated by a co-head verb *khâw* (plus the combination of a deictic verb *paj* and a preposition *naj*).

(15) Thai
phûan mɔɔŋ khâw paj naj tùk lék.
friend look enter go in building small
'My friend looks into the small building.'

Based on the analysis that Thai serial verbs are all of equal status and are all co-heads of a sentence (e.g., Takahashi 2018), sentences like (15) are treated as cases of co-head coding of path, and Thai is grouped separately from the other languages in Figure 3. It is striking that the verbs *khâw* 'enter' and *paj* 'go' can be used without an overt manifestation of their subjects in the sentence. Such use of serial verbs is not always possible with other serializing languages (see Matsumoto 2020 for Akan).

Most notably, speakers of the three head path-coding languages (verb-framed languages) chosen for this study predominantly used satellites, adpositions, and other "head-external" elements for the expressions of path (except that some sort of path is indicated by the 'peep' verb in Japanese). An example in French is given in (11b). An Italian example is given in (16).

(16) Italian
Sta guardando dentro il magazzino.
be.3SG looking in(to) the warehouse
'He/she is looking into the warehouse.'

In this sentence, a preposition *dentro* 'in(to)' is used, which is also used in representing path in describing self- and caused motion under certain circumstances. Given that path verbs need a figure subject, there can be no way to use a verb to represent path in a construction like (16), in which a figure is implicit.

In Japanese a somewhat unusual construction was used to clearly represent the INTO path. As pointed out above, goal cannot be expressed in an adposition with a verb of vision, because Japanese verbs of vision take accusative-marked object arguments, rather than adpositional objects, as the expression of a visual target. In the description of self- and caused motion, the path INTO can be marked both by (a) the combination of a location noun *naka* and a goal marker *ni*, and (b) a path verb, as exemplified by (17), which represents caused motion. In this case the compound verb *keri-kom* (kick-make.enter) 'kick in' is used, with a causative path verb as the second verb (V2) of the compound verb. Japanese compound verbs are usually right-headed, and this V2 as the head determines the argument structure of the sentence (Matsumoto 1996).

(17) Japanese
Tomodachi-wa booru-o hako-no naka-ni keri-kon-da.
friend-TOP ball-ACC box-GEN inside-GO kick-make.enter-PST
'The friend kicked a ball into the box.'

Since no Japanese verb of vision can take a goal postpositional phrase, the combination of *naka* and *ni* cannot be used to describe visual motion. However, the V2 of the compound can be used to mark the meaning of INTO, as in (18), with the compound verb form superficially identical with the one in (17).

(18) Japanese
Tomodachi-wa chiisai tatemono-no naka-o nozoki-kon-da.
friend-TOP small building-GEN inside-ACC peep-make.enter-PST
'The friend looked into the small building.'

The V2 of the compound in (18) is, however, crucially different from the V2 of typical compound verbs such as that in (17) in that it does not determine the argument structure of the clause: The accusative-marked nominal in (18) is the theme argument of V1 *nozok* 'peep', rather than that of V2 *kom* 'make enter'. In this sense, V2 in (18) is not the head of the compound verb but is a modifier of V1 (which is an exceptional case in Japanese compounding). Thus, Japanese superficially uses the same pattern of expressing path in visual motion and in caused motion insofar as it uses the same V2 in compounds, but there is a clear structural difference in the status of the V2. Such V2s representing path are included in the head-external elements counted in Figure 4. Note also that the location of the target was often indicated additionally by an accusative-marked location noun *naka*, as in (18).

Thus, the present study confirms the claim that languages coding path in the main verb position for self- and caused motion do not do so in describing visual motion (Matsumoto 2001, 2020; Slobin 2009; Kawachi 2020). They use resources outside the head position for marking path, sometimes utilizing them in an unusual way, as seen in Japanese compound verbs.

4.4 The complexity of path expressions

Our data suggest that speakers of different languages use path expressions of different complexity. Here we will compare our ten languages in terms of the occurrence of multiple path phrases with a verb of vision. Figure 5 shows the percentages of responses with multiple path phrases with a ground per verb of vision obtained in our data. It shows that speakers of the two Germanic languages stack multiple path phrases more often than the two Romance languages examined (the difference between the two language groups was significant, with $\chi^2(1) = 12.40$, $p < .001$, using Yates' correction). This finding is in keeping with Cappelle's finding on the visual motion expressions in Dutch, English, and French. One example from German is given in (19), which has three path phrases.

(19) German
Die Freundin schaut durch die geöffnete Tür zu mir
the friend look.3SG.NPST through the.ACC open door to 1SG.DAT
in das Gebäude hinein.
into the.ACC building into
'The female friend looks at me through the open door into the building.'

This difference suggests that although French and Italian speakers use prepositions to describe visual path, they do not use them in the same way as Germanic speakers, as Cappelle suggests.

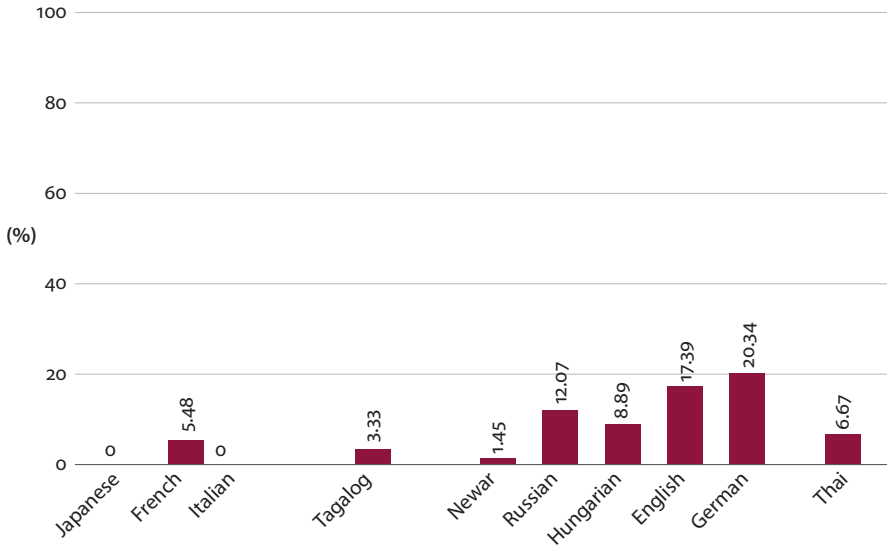


Figure 5. Percentages of responses with multiple path phrases per verb of vision

One may note, however, that not all head-external path-coding languages use path phrase stacking as often as Germanic ones. Multiple path phrases were also observed in Russian (e.g., *My za-glyanuli vnutr' doma cherez otkrytuyu dver'* (we into-look inside house through open door) 'We looked into the house through the open door.'), but much less often in Newar. The fact that some head-external path-coding languages use multiple path phrases significantly less frequently than Germanic ones do suggest that the frequent use of multiple path phrases is not necessarily a feature of head-external path-coding languages in general (see Filipović 2010). Although the body of data for this study is small, our results are in keeping with Ibarretxe-Antuñano's (2009) claim that path saliency (measured by the number of path phrases per clause) is not directly correlated with the typology of path-coding positions.

4.5 Representation of deixis

Finally, we will examine the representation of deixis. The way deixis is expressed in visual motion is somewhat different from its expression in self- and caused motion in many languages. All languages except Russian and Tagalog in the present study have deictic verbs, but they were not used in the description of visual motion except in Thai and in Japanese (see below).

Our data show that representation of deixis differs widely among languages. Figure 6 shows the percentages of responses with deictic reference in the ten languages studied. All expressions of deixis in relation to the verb of vision were counted (e.g., serial verbs, verb affixes, adpositional phrases, first-person pronouns).[3]

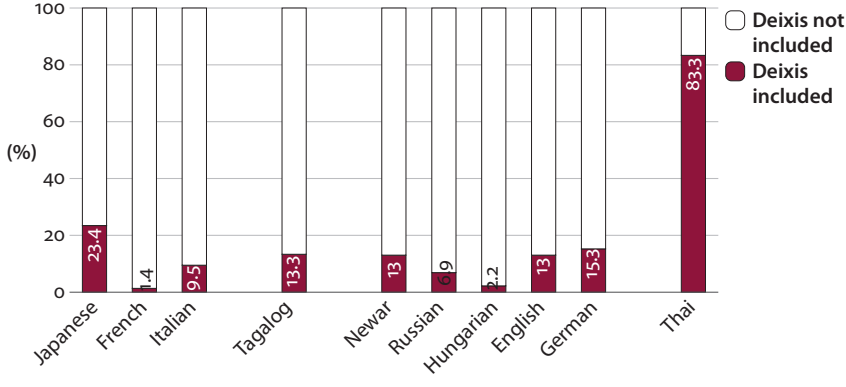


Figure 6. Percentages of responses with some deictic reference

3. Speakers of languages which have infrequent deictic reference are not necessarily inattentive to deictic information of described events, since many have used other means to convey deictic information. One case involves the indication of where the speaker is, as in an elicited English example in (i).

(i) *She leans forward and looks in the room in which I am.*

In this sentence a first-person pronoun is used, but no path element is used with it and in this sense no dynamic deixis is represented. More than one-third of French responses convey deictic information by such means. Such information about the location of the speaker is often given before the description of a motion event, in the description of the situation in which the motion takes place. This tendency is similar to the phenomenon observed in children's French whereby referents participating in a motion event are often statically introduced in the description of spatial scenes in pictures or video clips (Hickmann 2002: 243). We would like to thank Michel Aurnague for pointing this out to us.

Figure 6 shows variation in the frequency of use of deictic expressions depending on the language spoken. Speakers of Thai used deixis in their responses (83.3%) conspicuously more often than those of any other language. The difference between Thai and the second most deixis-rich language, Japanese, is significant, with $\chi^2(1) = 34.14$, $p < .001$, using Yates' correction.

A Thai example is given in (20).

(20) Thai
phûan mɔɔŋ khâw maa thaaŋ chán.
friend look enter come toward me
'My friend looks in toward me.'

The high percentage of responses with deictic expressions in Thai is contributed to by the use of a deictic verb as one of the serial verbs, as in (20). There is a special slot in the serial verb sequence for a deictic verb (Thepkanjana 1986, Takahashi 2020) and this slot is filled by either *maa* 'come' or *paj* 'go'. In many of the Thai responses describing path, either one or the other of these verbs appeared for scenes of all three deictic directions (including neutral, i.e., Situation c. in Figure 1).

Such deictic verbs are commonly used to introduce prepositional phrases indicating a goal, as in (15) and (20), and one might think that they were used frequently in order to introduce a goal ground. However, those deictic verbs were sometimes used without a subsequent prepositional phrase (4 instances out of the 33 uses of deictic verbs), suggesting that the introduction of a prepositional phrase is not the sole reason for their frequent use.

The deictic verbs in Thai are versatile in the sense that they can be used not only in the Figure-subject construction and the Figure-object construction (with switch subject serialization), but also in the Implicit-figure construction, such as in (20). In this sense, they are representation-type neutral devices (Matsumoto 2020), like prepositions, particles, and verbal affixes. Note that Thai allows serial verbs to be used without the overt appearance of their semantic subject in the clause.

Newar and Japanese speakers indicated deixis much less often than Thai speakers. This is striking in view of the fact that the speakers of those languages almost always indicate deixis in describing self-motion events (Matsuse 2020, Matsumoto 2017a, Koga forthcoming). According to the results of the clips for self-motion events in the same experiment, the speakers of both languages use a deictic verb in the main verb position not just to indicate deixis in the toward-the-speaker scene but also in the away-from-the-speaker and neutral scenes. (21) is a Newar example.

(21) Kathmandu Newar
Pāsā sata: dune bwāẽe wana.
friend rest.house into run go.PST
'Friend went running into the resthouse.'

However, speakers of both languages tended to use deixis only for the toward-the-speaker direction in describing visual motion (Situation a. in Figure 1). In Newar, this is done through the use of the dative-marked first-person pronoun, exemplified in (22), which can be employed only in describing the toward-the-speaker direction.

(22) *Jita:* *swae-ta* *lukhā-e* *dune* *sway-ā* *cwana.*
1.SG.DAT look-PUR house-LOC into look-CM be.PRS
'(She) is looking into the house to see me.'

Deictic verbs in Newar cannot be used to express deixis in visual motion. Unlike deictic verbs in Thai, those verbs in Newar require a subject argument denoting the figure, and it cannot be used in (22), in which no figure appears.[4]

Example (23) illustrates a somewhat common response in Japanese, in which the toward-the-speaker direction is indicated by the accusative-marked nominal indicating the speaker's space as the visual target, as well as the "inverse" use of the verb *ku* 'come' (Shibatani 2003, Koga and Ohori 2008).

(23) Japanese
Tomodachi-ga *kochira-o* *nozoi-te* *ki-ta.*
friend-NOM this.side-ACC peep-CONV INV-PST
'My friend peeped this way, affecting me.'

This inverse use of the deictic verb was observed in 36.4% of the responses for the toward-the-speaker scene. It indicates that the *effect* of the action (rather than a physical entity as a participant of the action) is directed toward the first person, and does not necessarily indicate the physical motion of the subject, unlike the use of this verb in its motion sense (see Koga forthcoming for the inverse use in the description of caused motion in Japanese). Thus, (23) means that the effect of the friend's peeping came to the speaker. Since there is no corresponding use of *ik* 'go' as the marker of effects directed away from the first person, deictic reference in expressing visual motion is restricted to the toward-the-speaker scene.

The low percentages of deictic reference in Hungarian and German may seem surprising, since both languages have verb prefixes coding deixis (for both languages these are often treated as adverbs since they can stand alone). Hungarian has one verb prefix slot, in which deictic preverbs such as *ide-* 'hither' and *oda-* 'thither' and

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4. One example of a causative deictic verb was found in our data:

(i) *pāsā:* *pine* *lukhā-sā:* *sway-ā* *hala.*
friend.ERG outside door-SRC look-CM cause.to.come.PST
'My friend looked this way from the door outside.'

This use of a causative deictic verb appears to be similar to that of a causative path verb in Japanese discussed in Section 4.3.

path preverbs such as *be-* 'into' can occur, and in this sense it is not a slot exclusively devoted to deixis. Almost all speakers chose the *be-* preverb instead of *ide-* or *oda-* in describing visual events in the experiment, resulting in the low frequency of deictic reference in this language's responses. There was only one instance of deictic expression used, and it was an allative-marked first-person pronoun. Some speakers stated that they would use *ide-* or an allative-marked first-person pronoun if the person in the video clearly looked at the camera. (Russian has a deictic prefix *pri-* 'toward (the speaker)', but it is not used in the deictic sense in combination with a verb of vision.)

German verbs have two prefix slots, and one is arguably for deictic prefixes *hin-* 'thither' and *her-* 'hither'. In our data, however, the deictic status of these prefixes is unclear when they are placed on a verb of vision, without a clear contrast in their respective meanings, and with their uses varying according to the speakers. In the case of visual motion descriptions, the prefix *hinein-*, which is supposed to be *hin-* 'thither' + *ein-* 'into', was used with *schauen* 'look' and *gucken* 'look' by 60% of the speakers in the description of the toward-the-speaker visual path (as in (19), where *hinein* as a "separable" prefix is separated from the verb and appears at the sentence-final position). While the meaning of the prefix *herein-* is consistent with the toward-the-speaker visual path, it was used only by 20% of the speakers. We treated *hin(ein)-* as deictic only when speakers used it contrastively with *her(ein)-*. For many speakers, the prefixed verb *hineinschauen*, rather than obsolete *einschauen*, appears to have been lexicalized in the deixis-neutral meaning of 'look into'. Furthermore, for some speakers, the distinction between *hin-* and *her-* appears to have been lost even in combination with other verbs: Half of those who used *hineinschauen* for the toward-the-speaker direction in descriptions of visual motion did not use *her-* at all for the toward-the-speaker direction in the description of other motion events in the same experiment, the results of which are outside the scope of this chapter.

Thus, the expression of deixis with visual motion is limited in many languages due to the difficulty of using deictic verbs without their subject or the restricted use of deictic prefixes. However, it is very frequent in Thai, which has an exclusive slot for deixis for which there is no competition from other meanings, and which allows a serial verb to be used without overtly specifying its subject.

5. Conclusion

Visual motion provides another domain in which linguistic patterns of motion event descriptions can be studied. Verbs cannot be easily used to represent path and deixis in Implicit-figure constructions in many languages, as seen in the non-use of path verbs in Romance languages to represent the path of vision or the employment of alternatives to verbs in Newar expressions of deixis, attributable to the lack of an overt manifestation of a figure. Thai is an exception due to the flexible use of path

verbs and deictic verbs without their subject. Languages that relatively freely code path in nonverbal head-external elements allow path to be expressed in a way similar to that in descriptions of self- and caused motion. Languages that code path in the main verb in describing self- and caused motion, on the other hand, use resources available in those languages to mark path in head-external positions, sometimes in an unusual way, as in Japanese compound verbs. The use of the Figure-object constructions to represent visual motion in these languages is not so frequent.

Thus, patterns of the representation of visual motion reveal a wider range of crosslinguistic variations in representing motion events than has been previously thought to exist, indicating the need for a proper treatment of such variations in the typology of motion event descriptions.

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Abbreviations

ACC	accusative	N	neuter
AV	actor voice	NOM	nominative
CM	concatenative marker	NPST	non-past
CONV	converb	PRF	perfective
DAT	dative	PRE	present
ERG	ergative	PST	past
F	feminine	PTCP	participle
GEN	genitive	PUR	purposive
GO	goal	PV	patient voice
INF	infinitive	RL	realis
INV	inverse	SG	singular
LOC	locative	SRC	source
M	masculine	TOP	topic

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CHAPTER 4

Deictic directionals revisited in the light of advances in typology

Christine Lamarre[1], Alice Vittrant[2], Anetta Kopecka[2], Sylvie Voisin[3], Noellie Bon[2], Benjamin Fagard[4], Colette Grinevald[2], Claire Moyse-Faurie[4], Annie Risler[5], Jin-Ke Song[2], Adeline Tan[1] and Clément Voirin[2]
[1]Inalco-CRLAO / [2]Lyon 2-DDL / [3]AMU-DDL /
[4]Lattice – CNRS, ENS-PSL & Sorbonne Nouvelle / [5]Lille 3-STL

This study explores the issue of Associated Motion (hereafter AM) in five languages spoken in Africa and Asia. We investigate grammatical morphemes whose function is to add a motion process to the event encoded in the verb expressing the main (non-motion) event, and to specify the temporal sequence of these two events (MOTION-PRIOR-TO-ACTION or MOTION-SUBSEQUENT-TO-ACTION). We show that an AM analysis adequately accounts for the function of morphemes previously considered as directionals in Wolof and Burmese, whereas in Sereer, Northern Mandarin and Japanese, AM markers are concurring with morphemes marking deictic orientation. Our results support recent studies showing that AM is a widespread linguistic phenomenon, and thus raise the question of the place of AM in a typology of motion events.

Keywords: Atlantic languages, Burmese, Japanese, Mandarin, deictic orientation, motion-prior/subsequent-to-action

1. Introduction: Understudied aspects of dynamic deixis

Our chapter focuses on the encoding of dynamic deixis as expressed by grammatical morphemes that are also called "directionals" in some linguistic traditions, and investigates the use of such "deictic directionals" to encode Associated Motion. Its aim is to present the first results of an ongoing project that focuses on the encoding

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of dynamic deixis as one constitutive element of a motion event.[1] The notion of "dynamic deixis" is understood here as the variation in time of the distance to a viewpoint (Fortis and Fagard 2010). This implies a direction along an axis defined by its relation to the deictic center (or viewpoint).

The approach we espouse in this chapter is functional-typological and, by doing so, we aim to contribute to developing "working typologies" (Grinevald 2011b) of linguistic phenomena (here "directionals" and "Associated Motion"). Such typologies are considered to be dynamic as they evolve over time to incorporate new findings and data, while at the same time providing a framework for language description.

The first aim of our study is to make an inventory of the devices (lexical, grammatical or constructional) used in typologically diverse languages to encode the notion of "dynamic deixis". At the same time, we aim at shedding light on the semantic notions co-expressed with dynamic deixis and the relations they bear with dynamic deixis.

In the process of exploring the typology of the particular functional domain of "dynamic deixis", within a more general typology of "motion events", we found that the label ***directional*** was widely used in describing languages we work on (Sino-Tibetan languages, Niger-Congo languages, and Austronesian languages) for quite different morphosyntactic forms. Directionals may correspond to Talmy's "path satellites" and have in some cases been explicitly analyzed as such (see for instance Grinevald 2011a on Jakaltek Popti' directionals, Talmy 2000: 109 and Lamarre 2003, 2008 on Chinese directionals, and Voisin 2013 on some Atlantic languages spoken in Senegal).

In the course of our empirical reflections on these issues, we have come to reconsider the status of some morphemes instantiating various stages of grammaticalization. These morphemes encode secondary motion events that actually correspond to Associated Motion, and not just the deictic orientation of the main motion event. They have been previously labelled as directionals (in Atlantic languages) or aspectual markers (Burmese), or analyzed as full verbs in a serial verb construction (Northern Mandarin) or in a complex predicate (Japanese). Hence, whereas the present definition of Associated Motion is mostly based on languages with dedicated forms (e.g. languages spoken in Australia or in Amazonia, see below), our contribution is to bring into the discussion data from languages where Associated Motion is expressed merely by morphemes that mark dynamic deixis.

Furthermore, we also aim to contribute to the motion event typology initially proposed by Talmy (1985, 2000) by exploring how Associated Motion fits into this

1. The authors were members of a crosslinguistic research project of the CNRS-TUL (Typology and Linguistics Universals, FRE 2559, 2015–2018) named "Dynamic Deixis", which focused on the encoding of dynamic deixis in a motion event description, in order to contribute from a wider perspective to the elaboration of a typology of the expression of motion events.

typological landscape. As observed by several authors (Guillaume 2006: 433–434, 2016: 90, Voisin 2013: 133 and Vittrant 2015: 595–596), Associated Motion has not been directly taken into account in Talmy's typology of path encoding, hence, its place within this typology remains to be investigated.[2]

This chapter is organized as follows: in Section 2, we first illustrate a few cases of grammatical morphemes that encode deictic orientation. In Section 3, after briefly introducing the category of Associated Motion (hereafter AM), we show that in some languages the morphemes marking deictic orientation may also mark Associated Motion, and we discuss several of these cases as documented in certain languages spoken in Asia and Africa. We argue that an AM analysis can sometimes more adequately account for the function and behavior of morphemes described under various labels such as "directionals" than existing analyses, and we discuss the relationship between AM markers and morphemes marking dynamic deictic orientation. The thesis we defend thus supports recent studies showing that this linguistic phenomenon is more widespread than what was assumed in previous descriptions of AM. In Section 4, on the basis of the data presented in Section 3, we discuss a few salient issues concerning Associated Motion and refer to our findings when relevant. We set out our conclusions in Section 5.

2. Deictic orientation and deictic directionals

2.1 The relative autonomy of the deictic component

In Talmy's framework, deixis is considered as a "component of path" in a motion event: "The deictic component of path typically has only the two member notions of 'toward the speaker' and 'in a direction other than toward the speaker'" (Talmy 2000: 56–57). However, Talmy (2000: 57) mentions that Korean, a language of the path verb type, "structurally distinguishes the Deictic component from the Conformation component of Path". Similarly, Slobin (1997: 30) notes that Satellite-framed languages do not necessarily work in accordance with the same pattern:

2. As noted previously by Wilkins (1991: 209) and Guillaume (2006: 434), Talmy (1985: 116–117, 2000: 122–123) does mention that a number of Atsugewi satellites may be used to encode how the main event is related to an ongoing locomotion event, with meanings such as 'go and V', but considers such functions as aspectual. Incidentally, many of the forms he listed in Table 2.14 (e.g. 'go and V', 'go Ving along', 'come Ving along') seem to be related to deictic motion. Atsugewi is a Hokan language spoken in California.

> Path satellites in German encode directionality, as in English. But in addition, they encode deictic viewpoint by means of the particles *hin* 'thither' and *her* 'hither', which can combine with the directional particles. The range of possibilities is thus considerably greater than in English, allowing for expression of VIEWPOINT PERSPECTIVE along with directionality of motion. (Slobin 1997: 30)

In other terms, previous research has shown that the way a language encodes deictic path cannot be entirely predicted from the way it encodes path in general: languages do not necessarily encode deictic path and non-deictic path in a consistent way. Some languages (such as Jakaltek, see Craig 1993 and Grinevald 2011a, or Chinese, see Chao 1968: 468 and Lamarre 2003, 2008) have bipartite path satellites, with a dedicated slot for the expression of deictic orientation. Other languages (such as English or Hungarian) tend to encode path in satellites, except for deictic path encoded in the verb (e.g. *come* and *go* in English). In the former type of languages, deictic orientation is more readily expressed, following what Talmy calls (2000: 128) "the principle of ready inclusion of extra information under backgrounding". In a recent study, Matsumoto (2017) mentions other languages (such as Newar, a Sino-Tibetan language, and Dom, a Trans-New Guinea language) that behave in this regard more like English and Hungarian, and observes that studies on the typology of motion events in fact point to some degree of "autonomy" of the deictic component.

For practical purposes, therefore, we have adopted the label "deictic directionals" for the forms that are dedicated to the encoding of deictic orientation, and we use "deictic orientation" as a cover term for both the deictic path and the deictic viewpoint as a discourse perspective taken by the speaker. We are dealing here exclusively with what Talmy (2000: 25) calls "translational motion", which implies a change of location with respect to a reference point.

2.2 Deictic orientation: A few examples

Oceanic languages and Mayan languages are among those for which an extensive description of deictic directionals is available (see for instance Ozanne-Rivierre 2004 on Iaai, an Oceanic language spoken in the Loyalty Islands, and Craig 1993 on Jakaltek Popti', a Mayan language spoken in Guatemala). Examples (1) and (2) respectively illustrate the use of directionals marking deictic orientation in East Uvean (an Austronesian language spoken in East Uvea [known as Wallis in French], Oceania, see Moyse-Faurie 2016) and in Jakaltek Popti' (Craig 1993). Centripetal motion is glossed here as DIR_{CTP} and centrifugal motion as DIR_{CTF}.[3] Directionals may belong to

3. We use the terms 'centripetal' and 'centrifugal' here rather than 'venitive' (or 'ventive') and 'andative' (or 'itive'), also used in the literature on motion events. 'Centripetal' and 'centrifugal' place the focus on the deictic center, and allow other directions such as 'transverse'. 'Venitive' and

distinct sets, and be organized in distinct paradigms encoding different types of path, as seen in Example (2) where the directional glossed as DIR_{DOWN} in Jakaltek precedes the deictic directional DIR_{CTP}.

(1) East Uvean (adapted from Moyse-Faurie 2016)
Ne'e ina toho ***mai*** *tona kupegá*
PST 3SG pull DIR_{CTP} his net
'He pulled his net back to him.'
(French: Il a ramené son filet vers lui)

(2) Jakaltek Popti' (adapted from Grinevald 2011a)
*a'-ay-****tij*** *tx'otx' xhalu y-ib'anh q'a'.*
move-DIR_{DOWN}-DIR_{CTP} earth pot its-ON fire
(Lit. 'Move-down-this way the (earth) pot on the fire!')
'Take the pot down from the fire!'

The following examples show similar paradigms in Standard Chinese, a Sinitic language (Sino-Tibetan): in (3a) the verb *niǎn* 'chase' bears a bimorphemic path directional. Bimorphemic patterns prevail in colloquial Standard Chinese, as shown in (3b), where the directional *-xia* 'down' is compulsory before the deictic directional, although the verb *diào* 'fall' includes a path component 'down'.[4]

(3) Standard Mandarin (TV series *Married for ten years*)
a. *Tā gǎn huí-lai wǒ jiù bǎ tā niǎn-chu-****qu****.*
3SG dare return-DIR_{CTP} 1SG then OBJ 3SG chase-DIR_{OUT}-DIR_{CTF}
'If she dares to come back, I will chase her out [of here]!' ([7–20])[5]
b. *Wǒ shì pà nǐ diào-xia-****qu****.*
1SG be afraid 2SG fall-DIR_{DOWN}-DIR_{CTF}
'[It's because] I'm afraid you might fall down.' (said by a father to his son carried on his shoulders, complaining that his father holds his hands too hard) ([12–43])

'andative' directly refer to deictic morphemes (e.g. Romance deictic verbs). Other terms such as 'cislocative' and 'translocative' are sometimes found in the literature too. See Bourdin (Chapter 5, this volume) for a diverging opinion on this terminological issue.

4. A bare verb *diào* would not be felicitous. Standard Chinese data are transcribed in the *pinyin* system of transcription, where diacritics on the main vowel express lexical tone. Directionals are unstressed and lose their distinctive tone features. Although Chinese also uses path verbs, we follow the prevalent opinion in Chinese linguistics that Chinese directionals share many characteristics with Talmy's path satellites (see Talmy 2000: 109, Lamarre 2003, 2008).

5. The Chinese title is *Jiéhūn shí nián*. Here 7 indicates the number of the episode, 20 indicates the time when the sentence occurs in the episode (minute 20).

In Sereer, an Atlantic language (Northern group) spoken in Senegal, deictic orientation is expressed by a verbal suffix, as illustrated in (4). Atlantic languages described up to now do not use path directionals to encode non-deictic path information such as 'down' or 'out' (Voisin 2013).

(4) Sereer (adapted from Renaudier 2012: 96–97, see Voisin 2013)
*Ten yen-**iid**-u ga-kall al-e […]*
3SG fall-DIR$_{CTP}$-FOC CL-arm.of.the.sea CL-PROX
'She fell down into the sound (toward the island where the speaker is located).'

In the next section, we show that in both Standard Chinese and Sereer, the same morphemes that express deictic orientation also encode MOTION-PRIOR-TO-ACTION, a subtype of Associated Motion. We also discuss another subtype of Associated Motion, MOTION-SUBSEQUENT-TO-ACTION, attested in Japanese and in Burmese.

3. Associated motion and deictic orientation

3.1 Associated motion as a "cross-linguistically valid conceptual category"

Associated motion (henceforth AM) is defined as follows in Guillaume and Koch (2021: 3):

> Associated Motion (AM) is a relatively newly established descriptive and comparative concept that we define as a *verbal grammatical category, separate from tense, aspect, mood and direction, whose function is to associate, in different ways, different kinds of translational motion* (spatial displacement / change of location) *to a* (generally non-motion) *verb event*.

It was first described in Australian languages (see Koch 1984, Wilkins 1991, 2006), but has been documented since in other parts of the world such as America (O'Connor 2004, Guillaume 2006, 2016, Vuillermet 2012, 2013), Africa (Bourdin 2005, 2006, Renaudier 2012, Voisin 2013, Belkadi 2015) and Asia (Jacques 2013, Vittrant 2015).

Koch (1984) noted with regard to Kaytej, an Arandic language of Central Australia, that AM should be added to the list of grammatical categories pertaining to the verb. This view is shared by Wilkins (1991: 209), who insists that "languages as typologically, geographically and genetically distinct as Hausa, Atsugewi and Mparntwe Arrernte possess morphemes relating main verb events to background motion events", and argues in favor of AM as a "cross-linguistic valid conceptual category" worthy of recognition, as well as a "grammatical category which can be added to the list of notions such as tense, mood and aspect".

Table 1 shows some of the parameters at work in the Arrernte AM system, based on Wilkins (1991, 2006: 49). The specific AM morphemes listed in the original table are omitted here. Only parameters observed when the performer of the action is also the moving entity are included in the table.

Table 1. Some parameters at work in Arrernte AM system (based on Wilkins 2006)

Action and Motion Concurrent		**Action and Motion Non-concurrent**		
Directed: Deictic	**Oriented**		**GO**	**GO BACK**
DO COMING	DO PAST	Prior Motion	GO & DO	GO BACK & DO
DO COMING BACK	DO UPWARDS	Subsequent Motion	DO & GO	DO & GO BACK
DO COMING THRU	DO DOWNWARDS			
REVERSIVE:	Quickly DO	Subsequent Motion	Quickly:	Quickly: DO &
a. Do going back	DOWNWARDS	Hurried	DO & GO	GO BACK
b. Do back to				

This newly defined concept was later applied to Amazonian languages: Guillaume (2006, 2016) and Vuillermet (2012, 2013) described elaborate AM systems in Cavineña and Ese Ejja, two Takanan languages spoken in South America. Ese Ejja possesses an AM system of ten verbal suffixes, which are organized along several parameters related to deictic orientation and to the sequence of the action expressed in the main verb and of the motion (motion prior to, simultaneous with or subsequent to the action).

Table 2 shows some of these parameters as described in Vuillermet (2013). The specific AM morphemes listed in the original table are omitted here. Only parameters related to the motion of the performer of the action are included.

Table 2. Some parameters at work in the Ese Ejja AM system (based on Vuillermet 2013)

Motion	**Orientation**		
(True deictics)	Towards reference point	Away from reference point	No reference point
	COME TO DO	GO TO DO	
Prior	DO ARRIVING		
	ARRIVE & DO		
	(TRANSITORY)		
Simultaneous	DO RETURNING	DO GOING	DO HERE & THERE
Subsequent	DO & RETURN	DO & LEAVE	

The descriptions of the elaborate AM systems observed in Amazonian languages have significantly contributed to our understanding of Associated Motion, through a larger set of data from very distant languages, thus allowing for a better definition of this rather neglected category.

This new descriptive tool was further applied to languages spoken in other areas of the world, and recent studies looking into a new batch of languages show that AM is probably quite widespread: it is also attested in Africa, in Atlantic languages such as Sereer, Wolof and Pular (see Renaudier 2012 on Sereer, and Voisin 2013 for a comprehensive study) and in Afroasiatic languages such as Berber (Belkadi 2015), as well as in East Asia, in Sino-Tibetan languages such as Gyalrongic and Kiranti languages (Jacques 2013, Jacques, Lahaussois and Zhang 2021) and also in Tungusic languages including Manchu (Alonso de la Fuente and Jacques 2018, Pakendorf and Stoynova 2021).

This chapter looks more specifically into languages where a morpheme encoding dynamic deixis happens to play the role of an AM marker (an issue which will also be discussed in the next chapter, see Bourdin, this volume). In the next sections, we look more closely into the subfunctions of AM found in the African and Asian languages we work on (Section 3.2). Some of these forms were labelled "directionals" in previous descriptions, but do not actually mark deictic orientation. This is the case of Central Burmese and Wolof (Section 3.3). In other languages, the same marker may encode deictic orientation and AM. This is the case, we would argue, for Sereer, Northern Mandarin, and Japanese (Section 3.4). These languages exhibit simpler systems than those described in Australian and Amazonian languages, but may help further our understanding of the typical and less typical semantic features of Associated Motion markers as elements encoding secondary motion events.

3.2 The subfunctions of Associated Motion discussed in this study

As noted by O'Connor (2004) and Rose (2015), the label "Associated Motion" is rarely used in grammatical descriptions, and relevant morphemes may be described under various labels, such as "directionals", as is the case in some of the languages discussed here. In this study, we discuss morphemes whose function is to add a motion process to the event encoded in the verb expressing the main event and to specify the temporal sequence of these two events: motion prior or subsequent to action. The AM subtypes investigated here actually only cover a small part of those described in Australian or South American languages.[6] All of the AM markers we have come across involve motion of the agent of the verb. We analyze the following two subtypes:

6. By focusing on these two subtypes, we leave out the delicate issue of the criteria to be used for patterns that could be analyzed either as AM markers encoding concurrent motion or as deictic directionals. This issue requires a separate study involving specialists of the relevant languages, as these criteria are likely to be language-specific.

a. MOTION-PRIOR-TO-ACTION, Gloss: [COME&DO, GO&DO]: 'come or go and/to do'
b. MOTION-SUBSEQUENT-TO-ACTION, Gloss: [DO&COME, DO&GO, DO&RETURN, DO&LEAVE]: 'do before coming, going, returning or leaving'

In terms of the temporal sequence, in the MOTION-PRIOR-TO-ACTION pattern the motion co-event occurs before the action expressed by the main verb, whereas the MOTION-SUBSEQUENT-TO-ACTION pattern conveys the idea of an action completed before the motion. See for instance examples from Ese Ejja:[7]

(5) Ese Ejja (Vuillermet 2013)
a. *Ixya-**wa!***
eat-COME_TO_DO-IMP
'Come and eat!'
b. *Ka'a-**nana**-kwe!*
lock-DO&LEAVE-IMP
'Lock the door before going!'

3.3 Associated Motion in Burmese and Wolof

The MOTION-PRIOR-TO-ACTION subtype is attested in Wolof (Niger-Congo phylum). Examples (6a) and (6b) show that, in Wolof, the suffixes *-si* 'come and do' and *-i* 'go and do' encode Associated Motion of the MOTION-PRIOR-TO-ACTION subtype: they express a deictic motion event "associated" to the action denoted by the main predicate, which does not convey motion.[8]

(6) Wolof (Niger-Congo phylum, adapted from Voisin 2013)
a. *Waadëkk bépp a wall-**si** woon.*
villager all SE rescue-COME&DO PST
'The whole village came to rescue.'
b. *Dafa dox-**i** ci tefes gi.*
VE3SG walk-GO&DO LOC beach DEF
'He went to the beach and walked.'

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7. In Vuillermet (2013), the gloss chosen for the AM morpheme in (5a) is COME_TO_DO, which implies that the action denoted by the verb V is the purpose of the motion. In Vuillermet (2012), the gloss chosen for the AM morpheme in the example corresponding to (5b) is FAIRE&ALLER (i.e. DO&GO), which looks more "deictic" than 'DO&LEAVE' used in Vuillermet (2013). We are aware that these issues require further investigation.

8. In Example (6b), the main event verb 'walk' rather conveys the meaning of 'to take a walk', and does not contribute to the encoding of translational motion.

Voisin (2013: 142–143) observes that these markers do not encode deictic orientation in a motion event, but have sometimes been called "directionals".

We find the MOTION-SUBSEQUENT-TO-ACTION subtype in Central Burmese (Sino-Tibetan) where, in the following sentences, the marker *Khɛ*^{1} marks the centripetal motion of the subject of an action expressed by the main verb. Only the DO&COME ('do before coming') type is attested with this function in Central Burmese; it has no centrifugal counterpart.

(7) Central Burmese (adapted from Vittrant 2013)

a. *kɔ*^{2}*phi*^{2} *θaɔʔ* ***Khɛ***^{1} *Pa*^{2}*=Tɛ*^{2}
coffee drink DO&COME POL=REAL.
'(He) drank a coffee [before coming.]' (* He drinks a coffee.)

b. *ʔɛ*^{3}*-di*^{2} *ywa*^{2}*=Ma*^{2} *ʔaʔ* *tha*^{3}***=Khɛ***^{1} *=Tɛ*^{2}
DEM.anaph village-LOC leave.with PUT=DO&COME=REAL
'(I) left (my bicycle) in that village [then I left and came here].'

c. *she*^{3}*khaN*^{3} *mə= la*^{2} *=KhiN*^{2} *myɛʔsiN*^{3} *khaʔ* ***=Khɛ***^{1} *=Pa2*
hospital NEG=come=before eye.drop put= DO&COME =POL
'Before coming to the hospital, put some [eye-lotion] drops [in your eyes].'

3.4 When the same forms function as deictic directionals and as AM markers

Unlike in Wolof and Burmese, in Northern Mandarin, Sereer and Japanese, a deixis-related form may, in a similar sequence of morphemes [VP + deixis-related morpheme], be interpreted as marking either the deictic orientation of the process denoted by the verb, or a distinct motion event associated with the verb. Owing to the semantics of the predicate referring to the main event, most utterances are unambiguous, but in some cases both readings are available. On the other hand, one could also analyze AM, in this case, as "one mechanism allowing deictic directionals far greater productivity than they exhibit when they can only attach to verbs of motion", to follow Bourdin (this volume, Section 3.3). We discuss below the cases of Sereer and Northern Mandarin, where the same form may express either deictic orientation or the MOTION-PRIOR-TO-ACTION subtype of AM, and the case of Japanese, where grammaticalized deictic motion verbs may express either deictic orientation or the MOTION-SUBSEQUENT-TO-ACTION subtype of AM.

3.4.1 *The* MOTION-PRIOR-TO-ACTION *subtype: Sereer and Northern Mandarin*

In Sereer (Northern Atlantic group) and in Northern Mandarin (a Sinitic language, Sino-Tibetan), the same sequence [verb + marker of deictic orientation] allows two distinct readings: (1) the deictic orientation of the motion denoted by the verb, and (2) AM of the MOTION-PRIOR-TO-ACTION subtype ('GO&DO', 'COME&DO').

In Sereer, *-iid* encodes deictic orientation of the centripetal type (centripetal: towards the speaker), as illustrated in Example (4), reproduced here as (8a). The same verbal suffix in (8b) shows that it may also encode AM of the MOTION-PRIOR-TO-ACTION subtype ('COME&DO').

(8) (= 4) Sereer (adapted from Renaudier 2012: 96, see Voisin 2013)
a. *Ten yen-**iid**-u ga-kall al-e […]*
3SG fall-CTP-FOC CL-arm_of_the_sea CL-PROX
'She fell down into the arm of the sea (toward the island where the speaker is located).'
b. *Tiit k-e a-ñaam-**iid**-aa kaaf k-e*
bird CL-PROX S.3-eat-COME&DO-IPFV millet CL-PROX
'Birds come to eat millet.'

Note that Atlantic languages behave rather like verb-framed languages in terms of Talmy's typology (Voisin 2013), whereas Standard Chinese shows many features typical of satellite-framed languages (Talmy 2000: 108–109, Lamarre 2003, 2008).

In Standard Mandarin (based on the Beijing Mandarin variety), the clitics *lai* and *qu* that express deictic orientation are related to the deictic verbs *lái* 'come' and *qù* 'go', and may also encode a MOTION-PRIOR-TO-ACTION subtype of AM as in (9a) and (9b). They often attach to the object NP of a transitive verb, as in (9) below:

(9) Standard Mandarin (TV series *Married for ten years*)
a. *Xǐ shǒu=**qu!***
Wash hand=GO&DO
'Go and wash your hands!' ([6–07])
b. *Nǐ gàn má=**lai** le?*
2SG do what=COME&DO CRS
'What are you coming for?' ([6–31])

When the centrifugal and centripetal clitics attach to the VP as in (9a) or (9b), they exhibit phonetic erosion typical of grammaticalization (loss of tone distinction, and for the centrifugal counterpart *qu* [tɕʰy], unrounding of [y] to [i]. There is no consensus on how *qu* and *lai* should be analyzed in (9a) and (9b). Even those who consider them as the second verb in a serial verb construction (the prevailing analysis in reference grammars) often mention that they do not behave as full verbs, and

Chao 1968: 479–480 considers them as 'particles of purpose' (see Lamarre 2020 for a detailed review). Note that in Standard Mandarin, MOTION-PRIOR-TO-ACTION may also be expressed by full lexical verbs taking a purpose VP as their complement, as illustrated in (10a), where *qù* 'go' is usually analyzed as the first verb of a serial verb construction (hereafter SVC). (10b) illustrates the corresponding AM pattern.

(10) Standard Mandarin
a. *Wǒ* ***qù*** *xǐ shǒu.*
1SG go wash hand
'I go and wash my hands.'
b. *Wǒ xǐ shǒu=**qu!***
1SG wash hand=GO&DO
'I go and wash my hands.'

Examples (11a) to (11c) illustrate the verb *ná* 'take in one's hand' combined with a deictic directional, an association marker, and a full verb, respectively. In (11a) *qu* is a deictic directional, in (11b) an AM marker attached on a bare verb (the patient of the action 'take' is here covert, which explains why the sequence of verb and deictic marker is similar in 11a and 11b). The same purposive meaning as (11b) may also be expressed by an SVC, as in (11c).

(11) Standard Mandarin (TV series *Married for ten years*)
a. *Zhè qián nǐ ná-**qu** ba.*
DEM_{PRO} money 2SG take-DIR_{CTF} ADVI[9]
'Take this money (away).' [9] (Deictic orientation) ([18–33])
b. *Kuài ná=**qu!***
quickly take=GO&DO
'Hurry up, go and take it!' (MOTION-PRIOR-TO-ACTION reading. This is said by a father to his daughter, ordering her to go and fetch her notebook so that he can look at her homework) ([3–03])
c. ***Qù** ná!*
go take
'Go take it!' (SVC) [3–03]

In Southern Sinitic varieties such as Cantonese (Yue) and Taiwanese (Southern Min), the only pattern available to express motion-cum-purpose is a serial verb construction [deictic verb + purpose VP], the same pattern that was illustrated above in (10a) for Standard Mandarin. This is illustrated in (12a) for Chaozhou (also called Teochew, a Min dialect spoken in the Guangdong province of China), where a full deictic verb k^huu^{213} 'go' precedes the verb 'take'. Example (12b) has only

9. Sentence-final particle *ba* has the effect of toning down advices and commands.

one reading of deictic orientation 'take away (from the speaker)' (Tan's data, see also Tan 2014 on Chaozhou, and see Chao 1968: 479–480 for further comments on a northern vs. southern varieties of Sinitic contrast for purposive patterns).

(12) Chaozhou (Southern Min, Sinitic, A. Tan)
a. ***kʰɯ²¹³*** *kʰio?⁵*
go take.in.one's.hand
'Go and take it (and bring it back here).'
b. *kʰio?⁵-* ***kʰɯ²¹³***
take.in.one's.hand-DIR$_{CTF}$
'Take it (away from the deictic center).' (not: 'Go and take it.')

Associated motion would provide a convincing candidate for the grammatical category encoded by centrifugal and centripetal clitics in Northern Mandarin purposive patterns (see Lamarre 2020 for a detailed discussion).

3.4.2 *The* MOTION-SUBSEQUENT-TO-ACTION *subtype: Japanese*

Japanese *kuru* 'come' and *iku* 'go' are deictic motion verbs that may combine with another predicate through a *-te* linkage morpheme to form a complex motion predicate. As argued in Moriyama (1988: 196–197), these verbal complexes behave as one lexical unit with respect to prosody, which excludes an analysis as biclausal patterns.[10] Japanese example (13a) illustrates the case of a manner-of-motion predicate 'run', combined with the deictic verb *kuru* (whose stem is *ki*), to express a running motion towards the speaker. Example (13b) illustrates the case of a path verb 'return', combined with the same deictic verb *kuru* 'come' that expresses deictic orientation (see Morita 2011 and Imbert et al. 2011). We keep the same gloss 'come' for *ki-* in (13a) and (13b). In Example (13c), the same form *-kita* 'came' encodes the MOTION-SUBSEQUENT-TO-ACTION subtype of AM. The latter is very similar to the Burmese example (7a) above, which expresses an action (here 'drink coffee') occurring before the drinker moves to the place where the clause is uttered (i.e. to the deictic center).

(13) Japanese
a. *Koko=made hashit-te-**ki**-ta.*
here=to run-CVB-come-PST
'I ran all the way here.' (Jamassy 1998/2015: 267)

10. See also Matsumoto (1996: Chapters 9 and 10) for an in-depth discussion showing that complex motion predicates function as one word at functional structure and argument structure. This is why we choose to gloss the complex motion predicates discussed in this comparative study as one unit, with a hyphen between the verb and the following linker (CVB) *te*.

b. *Sen-getsu Nihon=ni kaet-te-**ki**-mashi-ta.*
last-month Japan=to return-CVB-come-POL-PST
'[I] came back to Japan last month.' (Jamassy 1998/2015: 250)

c. *Koohi=o non-de-**ki**-ta.*
coffee=OBJ drink-CVB-DO&COME-PST
'I drank a coffee before coming.'

Previous studies (Moriyama 1988: 186–189 and Shibatani 2007, among others) provide various pieces of evidence, among which argument structure and the scope of negation, to prove that *kuru* 'come' and *iku* 'go' behave as the head of a complex predicate when they occur with manner of motion verbs (e.g. 13a), but are grammaticalized in sentences such as (13c) where they encode a motion following an action. For instance, a ground phrase *kissaten-de* 'at a coffee shop' may be added before the verb 'drink' (13d), to express the location of the action 'to drink'. It would be incompatible with *kita* 'came' alone, whereas a goal NP *gakkoo* 'school' marked by the goal marker *-ni*, usual with 'come', would be infelicitous (13e).[11]

(13) Japanese

d. *Kissaten=de koohi=o non-de-**ki**-ta.*
coffee.shop=at coffee=OBJ drink-CVB-DO&COME-PST
'I drank a coffee in a coffee shop [before coming].'

e. **gakkoo=ni koohi=o non-de-**ki**-ta.*
school=to coffee=OBJ drink-CVB-DO&COME-PST
Intended meaning: 'I drank a coffee before coming to school.'

3.4.3 *Deictic orientation markers and AM markers: A summary*

The data discussed above show that in Sereer, Chinese and Japanese, the deictic morphemes encoding AM may also be added to motion verbs to encode the deictic orientation of a motion event. As pointed out by Belkadi (2015: 54), the crucial difference between the deictic directional interpretation and the AM interpretation is that "in the former the deictic path is a subcomponent of the motion event encoded by the verb, while in the latter, deictic path is external to that event".[12]

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11. Shibatani (2007) argues that in AM patterns, *iku* 'go' and *kuru* 'come' are more grammaticalized, less "verby" than when they occur with path verbs to express deictic orientation (ex. *de-te-ku-ru* 'come out') or with manner of motion verbs (e.g. *hashit-te-ku-ru* 'come running'), and hypothesizes that this involves the semantic congruity of the co-event.

12. Unlike Belkadi (2015), we restrict the term "deictic directional" to markers that encode deictic orientation in a motion event, and do not use it for AM markers.

Table 3 shows, for the languages discussed here, the subtypes of AM attested, and indicates whether the same form can also encode deictic orientation.

Table 3. Subtypes of AM and their relation to deictic orientation markers

Languages and AM markers (centripetal/centrifugal)	MOTION-PRIOR-TO-ACTION	MOTION-SUBSEQUENT-TO-ACTION	Also encodes deictic orientation*
Central Burmese VP + *Khɛ*[1] (CTP only)	–	+	no
Japanese V-*te-kuru* / V-*te-iku*	–	+	yes
Standard Mandarin VP + *lai* / VP + *qu*	+	–	yes
Sereer (Atlantic) V-*iid* / V-*ik*	+	–	yes
Wolof (Atlantic) V-*si* / V-*i*	+	–	no

* "Yes" means that the same form may encode deictic orientation in a motion event, for instance with a path verb or a manner of motion verb.

4. Discussion of a few specific issues related to AM

This section brings up several issues that have been under discussion in previous studies concerning AM, and comments when relevant on what we found in the data we have gathered up to now.

4.1 The inventory of AM markers

4.1.1 *Dynamic deixis*

This research started with a study of the various meanings and functions taken in some languages by morphemes expressing dynamic deixis. It is thus not surprising that our conclusions establish that there is a close link between deixis and AM. Furthermore, AM systems described up to now often include subsystems related to deictically anchored morphemes. This can be observed for instance in the following sample provided by Guillaume (2016: 82) in his comprehensive study of Associated Motion systems in South America to illustrate the various kinds of motion occurring with the verb 'see' in the Amazonian language Cavineña and in the introduction of a volume dedicated to AM (Guillaume and Koch 2021):

(14) Cavineña (Takanan; Guillaume 2016: 82, Guillaume and Koch, 2021)

ba-	'see O'
ba-ti-	'go and see O'
ba-na-	'come and see O'
ba-aje-	'see O while going'
ba-be-	'see O while coming'
ba-kena-	'see O and go'
ba-dadi-	'see O while O is moving away'
ba-tsa-	'see O while O is approaching'

Although (14) does not provide an exhaustive list of the AM markers of this language, it shows the importance of deictic orientation in AM systems. However, there are also AM markers not related to deictic orientation (Rose 2015, Guillaume 2016, Appendix).

The relation between AM markers and deictic verbs is also discussed by Wilkins (2006: 47–48), who notes about Arrernte that "[t]he associated motion inflections can occur on all verbs, with the exception of verbs from the 'deictic' motion subclass." This is due, he explains, to the fact that "much of the information encoded by the associated motion forms is identical to information lexicalized in the 'deictic' motion forms". Interestingly, according to Wilkins (2006: 51), the subtypes that remain in the speech of younger speakers in the process of language attrition in Arrernte also correspond to those directly related to deictic motion: younger speakers only use 8 of the former 14 forms, having lost all the forms referring to motion in the vertical dimension, those that encode velocity and complex notions such as 'do coming through' and 'do on Z's arrival'. Further cross-linguistic investigation is thus required to determine whether dynamic deixis is a "typical" or a "core" semantic component in AM systems (and if it is, to determine the motivation for this link).

4.1.2 *Motion back (home)*

In paradigms where deictic opposition plays an important role, the inventory of AM markers often comprises "motion back to source" (i.e. "return") together with canonical deictic meanings such as "go" and "come". This is for instance the case in Lowland Chontal (a Tequistlatecan language), (see O'Connor 2004), whose AM paradigm includes four verbal suffixes: "motion away from source", "motion to goal", "motion towards source" and "motion back to source" (or "reversive"). This raises stimulating questions about the perimeter of deixis in individual languages.

Among the languages investigated here, Japanese uses AM patterns with *kaeru* 'return', which are identical with the patterns containing *iku* 'go' and *kuru* 'come'. V-*te-kaeru* means 'do before going back (to home base)', and it encodes the MOTION-SUBSEQUENT-TO-ACTION subtype of AM. These patterns are highly conventionalized, but have not attracted much attention so far.

(15) Japanese (Yahoo Japan *chiebukuro*)[13]
*Kyoo=wa tabe-te-**kaer**-u yo.*
today=TOP eat-CVB-DO&RETURN-NPST RLV
'Today, I'm eating out with my friends (then going home).'

The link of Japanese *kaeru* with deixis is commented on by Fillmore (1992: 50–51), in a discussion about the concept of the "home base" as a feature in lexical semantic systems: *kaeru* actually means 'to go home' rather than 'return', he says.

4.1.3 *"Roundtrip" motion*

Another feature found in Japanese is what Bourdin (2005, 2006) calls a 'roundtrip' motion that encodes "the return portion of a roundtrip rather than the outgoing segment" for the centripetal item *kuru* in its AM function. Example (16) is taken from Bourdin (2006: 20), and illustrates roundtrip motion in Somali, where the ventive preverbal clitic *soo* means 'go and do then come back'. Example (17) is a Japanese sentence typically uttered by a speaker as they leave to go to the store.

(16) Somali (Bourdin 2006: 20)
*hilib **soo** iibi!*
meat VEN buy:IMP.2SG
'Go buy us some meat (and come back)!'

(17) Japanese
*Pan=o kat-te-**ku**-ru.*
bread=OBJ buy-CVB-DO&COME-NPST
'I go and buy some bread (and come back).'

The similarity between Somali and Japanese ventive markers was pointed out by Bourdin (2006: 27), who argues that "grammaticalization along a particular pathway is notionally driven", and that "we are dealing with language-specific instantiations of a *bona fide* cross-linguistic category", i.e. ***directional deixis*** (Bourdin 2006: 29). Berber Taqbaylit (Belkadi 2015) and Quechua ventive markers carry much the same meaning. Weber (1989: 134–143, also quoted in Belkadi 2015) describes a directional

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13. This sentence is very commonly heard in Japanese, as spoken to family members, before leaving home or when calling home. Here is an example taken from a Japanese Yahoo website called *chiebukuro* in a section on English. To the question (in Japanese) "How do you say in English '*kyoo wa tabetekaeru yo*'?", three answers were provided (presumably by Japanese native speakers): 'Today, I'm eating out with my friends', 'I return home after dinner with my friends (today)', and 'I will eat dinner with my friend, then go home today'. Retrieved from https://detail.chiebukuro.yahoo.co.jp/qa/question_detail/q1095849015, on October 3, 2017. Note that from the point of view of prosody, V-*te-kaeru* compounds behave like one word, not like two words, just as V-*te-iku* and V-*te-kuru*.

suffix *-mu* that, along with several other meanings, encodes centripetal orientation 'toward here' with motion verbs, and roundtrip motion 'go off and do (with implication of coming back)' with verbs that do not imply motion.

(18) Huallaga Quechua (Weber 1989: 137)
*tanta-ta ranti-rI-**mu**-y*.
bread-OBJ buy-SUD-AFAR-2IMP
'Go buy bread (and return quickly).'[14]

Such striking semantic proximity involving centripetal markers in languages as distant as Berber, Somali, Japanese and Quechua is worth noting. Alamin et al. (2012) observed in the case of Tima, a Niger-Congo language spoken in Sudan, that a "ventive marker" may express centripetal motion after the action (e.g. 'wash and come towards speaker' with the verb 'wash', i.e. typical MOTION-SUBSEQUENT-TO-ACTION), or may imply, in situations where the speaker and the listener are both at the same place, that one of them leaves the deictic center to do something, then comes back (Alamin et al. 2012: 26–29). This fits with the situation that triggers such readings in Japanese (see Moriyama 1988: 188–189 and Dhorne 2005: 69–73). In these languages, the same form also expresses deictic orientation (centripetal, towards the speaker, for example 'come out' with the verb 'exit').

4.2 Source for AM markers and grammaticalization paths

For some of the languages discussed here, the link between AM markers and deictic verbs is obvious (Chinese, Japanese), and the key issues in an AM analysis rather concern the evidence for their grammaticalization. In (Central) Burmese, the AM marker likely originates in a former deictic verb (see Vittrant 2013), whereas in Sereer, the etymology of the markers is unclear (Voisin 2013).

The issue of the source of AM markers has attracted some attention in the literature (Wilkins 1991, Guillaume 2016, etc.), but it is beyond the scope of the present chapter for each of the languages we have examined. The issue of the factors that may trigger the emergence and development of AM markers must be tackled individually for each language.

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14. The gloss AFAR chosen by Weber (1989: 137) for *–mu* here means "toward here from a distance or occurring at a distance" (Weber 1989: xxiii). The same marker triggers a cislocative interpretation 'toward here' when it follows a manner of motion verb or a motion verb (Weber 1989: 135). SUD means 'sudden(ly)'. See also Kerke and Muysken (1990) for a discussion of the functions of the particle *mu*, and Guillaume (2016) on the reasons why he categorizes ("for the time being") *mu* in Quechua as marking prior motion (in our terms, MOTION-PRIOR-TO-ACTION).

We can also expect internal variation to provide some hints as to the way AM systems emerge: among Atlantic languages, the deixis-related suffixes encode both AM (MOTION-PRIOR-TO-ACTION) and deictic orientation in Sereer, whereas in Wolof only the AM function is attested for the suffixes *-i* and *-si* (Voisin 2013). In northern Sinitic, MOTION-PRIOR-TO-ACTION is encoded by clitics occurring after the purpose VP, while southern varieties may only use independent full motion verbs located before the purpose VP in SVCs, which excludes them from the languages where AM is attested as a grammatical category (Lamarre 2020). The Burmese data discussed here were found in a non-standard variety of the language (Vittrant 2013).

Another related issue that we cannot address in detail here is the ability of a lexical deictic verb to compete and sometimes co-occur with a grammaticalized AM device, which is found in many Northern Mandarin varieties (see Wilkins 1991, Jacques 2013, Guillaume 2016, footnote 11).

4.3 Argument structure of a complex verb including an AM marker

Koch (1984: 26) notes that, in the complex verb form in which an activity is associated with a motion, associated motion is subordinate to the main verb, which determines the transitivity of the complex verb. Rose (2015: 122) also emphasizes that, when the Associated Motion marker is homonymous with a verb root, the syntax of the clause may provide evidence to analyze it as a grammatical category rather than as an element of a compound: if the argument structure is determined by the verb referring to the activity, and not by the morpheme expressing motion, it makes it plausible to analyze the latter as an AM marker rather than only as a verbal element in a compound.

This feature is significant in the case of Japanese, an OV language where the identification of *kuru* 'come' and *iku* 'go' in some verb complexes as "grammaticalized" is far from being obvious when they retain their spatial meaning. In Japanese, complex predicates always appear in the fixed order of manner, path, and deixis (e.g. *de-te-kuru* [exit-TE-come] 'come out', and *tobi-de-te-kuru* [fly-exit-TE-come] 'fly out (towards the speaker)'), where the final deictic verb bears tense, aspect and mood markers. However, as mentioned above, Moriyama (1988: 188–189) and Shibatani (2007), among others, showed that in the case of complex motion predicates that indicate MOTION-SUBSEQUENT-TO-ACTION, the argument structure is determined by the verb referring to the action preceding the motion, not by the deictic verb (see 3.4.2 above for details and examples).

The relevance of this type of evidence for the MOTION-PRIOR-TO-ACTION subtype of AM remains questionable, and will have to be examined further.

4.4 Foregrounded actions vs. backgrounded motion

Some descriptions of AM emphasize the backgrounding of the motion event, while the action encoded in the verb describing the main event is foregrounded. For instance, Wilkins (1991: 251) pointed out that AM forms are not intended to elaborate information about the motion event, but "to locate events within the flow of space", and "help to foreground, identify and characterize the event of the verb stem by making it a *figure* whose disposition in this space-flow is characterized with respect to a particular motion event acting as *ground*" (see also Guillaume 2006: 424, 432, Vuillermet 2013, and Rose 2015).

This fits quite well with the discourse functions of the DO&GO, DO&COME, and DO&RETURN subtypes of AM in Japanese. The following examples, (19a) and (19b), illustrate respectively the DO&COME and DO&GO types of AM. They are taken from *A Handbook of Japanese Grammar patterns* (Jamassy 1998/2015), which mentions that although (19a) is correct without the AM marker *te-kuru*, it is more natural with *te-kuru*, whose discourse function is to link what happened in another place to where the conversation is taking place (Jamassy 1998/2015: 250). The same reference book comments with regard to the sequential use of *-te-iku* – labeled "successive events" – that it means "a certain action done with the assumption of going somewhere, but the action has more weight than the subsequent act of going". Example (19b) is typically spoken to colleagues leaving the workplace at the end of the day, to explain why the speaker is staying longer, and nicely illustrates what may be a "backgrounded" and presupposed motion.

(19) Japanese

a. *Kasa=wa doo shi-ta no?*
umbrella=TOP how do-PST Q
(Question:) 'What happened to your umbrella?'
*Wasure-**te**-**ki**-chat-ta.*
forget-CVB-DO&COME-COMPL-PST
(Answer:) 'Oh, dear. I've left it [on the train].' (Jamassy 1998/2015: 250)

b. *Ato sukoshi dakara kono shigoto=o sumase-**te**-**iki**-mas-u.*
after a.little because this work=OBJ finish-CVB-DO&GO-POL-NPST
'There's just a little more left to do, so I'll finish this job before I go.'
(Jamassy 1998/2015: 241)

Thus far we have not found this type of data with respect to the MOTION-PRIOR-TO-ACTION subtype of AM in the languages discussed here.

5. To conclude: Some perspectives for further research

This chapter confirms the findings of recent studies showing that Associated Motion is probably a widespread phenomenon: apart from Australian languages and South-Western Amazonian languages, it is also documented in Africa (see Voisin (2013) on Atlantic languages such as Wolof and Pular, but also Bourdin (2005, 2006) on Somali, Alamin et al. (2012) on Tima, Belkadi (2015) on Berber, and Creissels and Bassène (2021) on Jóola Fóoñi, another Atlantic language) as well as in East Asia (see Jacques (2013) on Japhug Rgyalrong, Alonso de la Fuente and Jacques (2018) on Manchu, Jacques, Lahaussois and Zhang (2021) on Gyalrongic and Kiranti languages, Pakendorf and Stoynova (2021) on Tungusic languages, together with the data on Burmese, Northern Mandarin and Japanese introduced here).

Data from the languages under study here – Burmese, Japanese, Northern Mandarin, and Sereer – show a recurrent relation of AM markers with deictic verbs or deictic directionals, and point to morphemes expressing dynamic deixis as being one important source for Associated Motion markers. Further research on the grammaticalization paths followed by AM markers in individual languages will probably contribute to the ongoing debate on this issue. Comparative studies between complex systems and deixis-based simple systems may also help us reconsider the role of deixis in AM systems, and shed light on markers encoding complex motions such as "roundtrip" motion and motion "back to home base". The data presented here may also help us take into account the role played by the speaker's viewpoint in the development of Associated Motion as secondary event associated with non-spatial main events.

The distribution of AM meaning and directional meaning in languages where both functions are fulfilled by the same forms requires further research to investigate to what extent cross-linguistic generalizations can be made. Our preliminary investigation indeed confirms the tendency for non-motion predicates to trigger an AM interpretation (see Belkadi 2015, Voisin 2013: 142–143, and Bourdin in this volume).

As pointed out by Guillaume (2006: 433–434, 2016: 90), AM systems fall outside Talmy's motion event typology, which only takes into consideration situations where the motion component is expressed by a lexical verb root. Voisin (2013: 138) observes that AM markers are not just adding information about the path of a motion event expressed by the verb, as typical path directionals do; they add a process of motion to the main process expressed by the verbal morpheme of the clause, i.e. a distinct event from the main event expressed by the verb. Thus, Talmy's classification of motion events expressed by motion verbs cannot apply to AM devices (Vittrant 2015: 595–596). This raises the question of the place of AM in a typology of motion events, and calls for a reconsideration of the concept of co-event put forward by Talmy (2000, Chapter 1 on Lexicalization patterns).

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Abbreviations used in the glosses

ADVI	advisative final particle
COME&DO, GO&DO	MOTION-PRIOR-TO-ACTION subtypes of AM of the centripetal and centrifugal types
COMPL	completive
CTP	centripetal (towards deictic center)
CVB	linker-*te*-between a converb and the deictic verbs (or AM markers) in Japanese
CRS	current relevant state (Mandarin sentence-final particle *le*, may also mark completion of a change of state)
DEF	definite
DEM.anaph	anaphoric demonstrative
DIR	directional (path may be specified, ex.DIR_{DOWN})
DIR_{CTF}	deictic directional, centrifugal (away from deictic center or from another focal participant
DIR_{CTP}	deictic directional, centripetal (towards deictic center)
DO&COME	MOTION-SUBSEQUENT-TO-ACTION subtype of AM of the centripetal type
DO&GO	MOTION-SUBSEQUENT-TO-ACTION subtype of AM of the centrifugal type
FOC	focalization
LOC	localization
IMP	imperative
IPFV	imperfective
NPST	non past tense
NP	noun phrase
OBJ	object
PST	past tense
POL	politeness
PROX	closeness

REAL	realis modality
Q	question marker
RLV	sentence-final particle indicating relevance
S	subject
SE	subject emphasis
SG	singular
SVC	serial verb construction
TOP	topic marker
VE	verbal emphasis
VEN	ventive
VP	verb phrase
1/2/3 SG/PL	1st, 2nd, 3rd person, singular / plural

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CHAPTER 5

On a few instances where deictic directionals confound expectations

Philippe Bourdin
York University, Toronto

Directional deixis (DD) is characterized by a set of properties that recur across languages, e.g. the feature of goal-orientedness and the built-in asymmetry between ventive direction and itive direction. These properties define a formal and semantic space that has a core and a periphery. DD systems that are outliers with respect to any given property or properties can be shown to support, rather than call into question, the validity of DD as a self-standing descriptive category. This requires articulating an explanatory framework that reconciles the complexity at the periphery with the simplicity of the overarching logic, i.e. the fundamental imbalance between the intrinsically conjunctive semantics of ventive markers and the disjunctive semantics of their itive counterparts.

Keywords: asymmetry, conjunctive vs. disjunctive semantics, goal-orientedness, itive, ventive

1. Introduction

Since 1971, when Charles Fillmore gave his seminal *Santa Cruz Lectures on Deixis*, countless studies have dealt with the "equivalents" of *come* and *go* in a wide range of languages, or rather the purported equivalents of *come* and *go*. It is a topic that has also been addressed, though with varying degrees of precision, in a great many reference grammars. As well, there has been a considerable amount of work, mostly within the functional-typological framework, addressing the very many pathways of grammaticalization followed crosslinguistically by markers, typically verbal, that encode what may be called "directional deixis": the relevant entries in Heine and Kuteva (2002) provide a useful point of entry. Yet directional deixis, or DD for short, remains virtually unacknowledged as a self-standing descriptive category or even as a comparative concept in the sense of Haspelmath (2010).

It may be useful to start from a working definition and delimitation of what might be meant by DD: this is the topic of the second, brief, part of the paper. In

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the third part, DD is shown to interact with two other categories of deixis: positional deixis and person deixis. The fourth part addresses a few salient design features, both formal and semantic, of the morphosyntactic systems used for encoding DD. The fifth part deals with three "outlier" DD systems. They are instantiated in Somali, Uduk and Gumuz and they are quite simply intractable unless an explanatory framework is worked out that incorporates standard accounts of DD and related notions, while also going well beyond them.

This paper is first and foremost about the unexpected and the non-canonical. Quite inevitably, though, it is also about the expected and the canonical as it is of course only against the background of our expectations that the phenomena to be examined can be assessed as atypical. Some of them challenge our expectations when they are looked at in isolation, but I will attempt to show that they are amenable to an explanation when they are put in perspective.

The generalizations that serve as a backdrop to this paper are based on observations I have made over the years in the course of exploring systems of directional deixis across a genealogically and geographically diverse spectrum of languages. I would hope that those observed tendencies may help to articulate parts of the above-mentioned "perspective".

2. Towards a working definition of directional deixis

I will assume in what follows that directional deixis is fundamentally inseparable from the notion of motion in space. I am assuming, more precisely, that DD specifies one aspect of events of motion in space, namely their relation to a salient or "favoured" location, which is typically associated with the site of the speech event. It should be emphasized at the outset that this view is not universally shared. For instance, Grinevald (2011: 55) explicitly advocates a notion of "PATH" that is divorced from "the notions of a path followed by a figure moving": rather, PATH is "a mental calculation by a speaker of a particular spatial relation between several spatial entities" (ibid.) and "deictic anchoring" is one of "the core elements" of this calculation (ibid., 56).[1] While fully acknowledging the importance of this issue and recognizing also that Grinevald's theoretical stance is both insightful and *helpful* to understanding the semantics of deictic directionals in some languages, I am unconvinced that a theory of DD eschewing the conceptual centrality of motion in

1. Partly in the same vein, though within a different theoretical framework, Lebaud (1989: 117–8) rejects the view that reference to a change of spatial location is central to the semantics of the French verb *venir*, 'come'. He argues rather that as a meaning component, it is epiphenomenal and context-bound.

space is *crucial* to such an understanding. Rather, I would argue that there is much to be gained from a theory that reconciled this centrality with the empirical reality that motion in space does not exhaust the semantics of the relevant markers, let alone the breadth of their functional range.

Some events of motion in space are represented as bounded. In the simplest case, a Figure moves along a straight path all the way from a Source to a Goal. Crucially, the sentence describing the motion event is itself the product of a speech event. As such, it involves a deictic space that is centered. A directional deictic is a marker that specifies the anchoring of the Goal to the deictic centre. The Goal may be anchored positively, in which case the directional serves a ventive function, or negatively, in which case the directional serves an itive function.

Directional deixis is goal-oriented because languages tend to anchor in this fashion Goals rather than Sources – a tendency captured by the following hypothetical generalization:

There are no languages in which DD is implemented by S markers without being also implemented by G markers where:
- G markers specify motion events having L_{DC} or L_{nonDC} as their Goal;
- S markers specify motion events having L_{DC} or L_{nonDC} as their starting point, or Source;
- L_{DC} is a location identified with the deictic centre or somehow situated within a zone containing the deictic centre;[2]
- L_{nonDC} is a location situated outside such a zone.

I am not aware of any language that runs afoul of this generalization.

As a working principle, the generalization calls into question the adequacy of the terms "centripetal" and "centrifugal", which are occasionally to be found in the literature. This is because these suggest an equal propensity of the deictic centre to function as Goal or as Source, a property belied by the fundamental asymmetry between Goal and Source that is intrinsic to directional deixis. The terms "ventive" and "itive", or "hither" and "thither", have the advantage of carrying no such baggage.

2. The phrase "somehow situated within a zone containing the deictic centre" is admittedly vague. This is warranted because when it comes to proper use of their DD markers, languages differ considerably as to the constraints they place on the closeness of the endpoint of motion to the deictic centre. Thus, Wilkins and Hill (1995: 224–5; 241) show that in Mparntwe Arrernte (dial. of Eastern Arrernte, Pama-Nyungan; Australia [Northern Territory]) the marker I would call "ventive" can be used when the endpoint is situated at any location on the trajectory from the starting point to the deictic centre, while in Longgu (Austronesian, Oceanic; Solomon Islands) use of the ventive marker is disallowed unless the endpoint coincides with the deictic centre or lies in its vicinity.

The goal-orientedness of DD systems may well be a manifestation of Goal-bias. It is a phenomenon that has been shown to be a feature of human cognition in a number of psycholinguistic studies.[3] It is also one that is sanctioned by natural languages in various semantic and morphosyntactic ways.[4]

3. Directional deixis as against other categories of deixis

3.1 Directional deixis and positional deixis: The case of Tima

Tima possesses a ventive marker as well as what I propose to call a "deictic positional":[5]

(1) Tima [Katla-Tima; Sudan (South Kordofan state)]

a. *dí-y-ʌ̀ŋ* ***nt̪ə̀***-*lâh*
walk-EPENTH-**VEN** **WHERE_SPEAKER_IS**-field
'Come to the field (where I am).' (Alamin et al. 2012: 15)

b. *kwʌ́kwʌ̀ŋ* *àn-dʊ́wá-y-**íŋ*** *á-lí-ŋɛ́ɛ̀*
K. TAM-descend-EPENTH-**VEN** SOURCE-LOC-east/top
'Kwʌ́kwʌ̀ŋ came down from the east.' (speaker is in the west)
Or:
'Kwʌ́kwʌ̀ŋ came from the top.' (speaker is down) (Alamin et al. ibid., 14)

c. *kwʌ́kwʌ̀ŋ* *án-dʊ̀wà* *á-**nt̪ɪ́***-*ŋɛ́ɛ̀*
K. TAM-descend SOURCE-**WHERE_SPEAKER_IS**-east/top
'Kwʌ́kwʌ̀ŋ went down from the east.' (speaker is still in the east)
Or:
'Kwʌ́kwʌ̀ŋ went down from the top.' (speaker is on top of a mountain)
(Alamin et al. ibid.)

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3. See for instance Lakusta and Landau (2005), Regier and Zheng (2007) and Papafragou (2010).

4. See for instance Ikegami (1987), Bourdin (1997), Kabata (2013), Aurnague (2019), Sarda (2019), and also, for a nuanced assessment, Stefanowitsch and Rohde (2004) as well as Kopecka and Ishibashi (2011). Issues surrounding Goal-bias, as they relate to a number of Indo-European languages at various stages in their diachronic evolution, are also explored by many of the papers in Luraghi et al.(2017).

5. I am departing from Alamin et al. (2012) with regard to the designation "deictic positional", which is not used by them, and also with respect to the gloss SPEAKER-THERE, instead of which I propose WHERE_SPEAKER_IS, for the sake of greater clarity. Also, the examples in (1) have been selected because they are highly relevant to the present paper. They are, however, only a small sample of the wealth of data provided by Alamin et al. that deal with the many aspects of directionality in space in Tima.

d. *kwʌ́kwʌ̀ŋ* *án-dɔ̀wà* *à-lì-ŋɛ́ɛ̀*
K. TAM-descend SOURCE-LOC-east/top
'Kwʌ́kwʌ̀ŋ went down from the east.'
Or:
'Kwʌ́kwʌ̀ŋ went down from the top.' (speaker neither at the Source nor at the Goal) (Alamin et al. ibid., 15)

e. *ìhwáá-y-↓é* *hʂ́lʌ̀k* ***nɪ̰̀-ʌ́hí***
people-EPENTH-FOC stay **WHERE_SPEAKER_IS**-ground
w-ʌ́cúk *kʂ́-pɔ̀rárɔ̀ɔ́k*
under-baobab CLF.SG-hollow
'The people are under the hollow baobab.' (speaker looking at a picture where s/he is under the baobab) (Alamin et al. ibid.)

As both (1a) and (1b) illustrate, the ventive suffix *-Vŋ* specifies motion towards the deictic centre, defined as the location "near or at" where the speaker is (Alamin et al. 2012: 14).[6] The purpose of the *nɪ̰̀(V)-* prefix, on the other hand, is to establish a relation of identity between the Ground in the sense of Talmy (2007: 71) and the location where the speaker is – hence the designation "deictic positional".[7] Further, the noun referring to the Ground may receive a source prefix, indicating that the Ground is where the motion event starts. In the absence of the source prefix, the Ground would seem to be either the place towards which a motion event is directed, as in (1a), or the locale of a static state of affairs, as in (1e).

In (1a) the ventive suffix *-Vŋ* indicates that motion is towards the deictic centre. The Ground is the field and in the absence of a source prefix it is interpreted as the location towards which the addressee is invited to walk. The deictic positional *nɪ̰̀(V)-* further identifies the field as the location where the speaker is. In other words, ventive orientation is marked redundantly, by *-Vŋ* and by *nɪ̰̀(V)-*. As the speaker cannot be at the same time where the motion event starts and at the location towards which the Figure moves, inserting the source prefix would presumably produce an incoherent sentence.

In (1b) the Ground is the east or the top of the mountain and the source prefix means that this is where the motion event starts. Accordingly, it is directed either

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6. As is made clear by Alamin et al. (2012: 21), the ventive suffix does not necessarily entail that the motion actually reaches the deictic centre. They go on to offer a fine-grained account of its semantics and pragmatics, which extends far beyond the description of its use in sentences such as (1a) and (1b).

7. Besides the ventive suffix and the deictic positional, Tima possesses several other deictic elements anchored to the speaker's location, in particular proximal and distal demonstratives and adverbs (Alamin et al. 2012: 14).

towards a place in the west or towards a site that is lower than the top of the mountain; the ventive suffix on the verb guarantees that this location is the deictic centre. Replacing the locative prefix (*lí-*) with the deictic positional (*nt̪í-*) would presumably produce an incoherent sentence, because, again, the speaker cannot be in two different places simultaneously.

In (1c) the Ground is again the east or the top of the mountain, the source prefix indicates that this location is where the motion event starts and the deictic positional indicates that it is also where the speaker is. Inserting the ventive suffix would produce the presumably incoherent sentence resulting from the insertion of the deictic positional in (1b).

In (1d) the absence of the ventive suffix guarantees that the speaker is not "near or at" the location towards which the motion event is directed. The absence of the deictic positional marker guarantees that s/he is not at the Ground either, i.e. at the starting point of the motion event.

Finally, (1e) refers to a static state of affairs and the deictic positional identifies the Ground, i.e. the space under the baobab, with the location of the speaker – or more precisely of the image of her in the picture.

Built into the system are, it seems, a pervasive attention to where the speaker is (Alamin et al. 2012: 30) and a need to keep track of that salient location at all times. This is sometimes achieved at the expense of overt redundancy, as in (1a). There is also what might be called covert, or systemic, redundancy: in (1b), for instance, the presence of both the ventive suffix and the source prefix rules out, presumably, using the deictic positional.

While the interplay of positional deixis and directional deixis instantiated in Tima may appear idiosyncratic, three features are in keeping with trends that are crosslinguistically recurrent. Firstly, overt redundancy is by no means rare: *Viens ici !* in French is an obvious case in point, as is *Come here !* in English. Section 4.2 will address another type of redundancy involving DD marking, namely multiple exponence. Secondly, ventive direction has a dedicated marker (*-Vŋ*), whereas itive direction, i.e. motion to(wards) a location other than the deictic centre, goes unmarked, as in (1c) and (1d). This type of asymmetry is often to be found among languages and other instances will be mentioned in Section 4.1. Thirdly, and crucially, the lone marker specifically dedicated to the encoding of directional deixis, i.e. *-Vŋ*, exhibits built-in goal-orientedness.

3.2 Directional deixis and person deixis

Because the location associated with the speaker and/or co-speaker plays a critical role in the definition, and plasticity, of the deictic centre, there is bound to be a close connection between directional deixis and person deixis.

While languages routinely organize their DD system on a binary basis, not a few possess a three-way system that is essentially a reflex of the canonical array of person markers. Such systems invariably distinguish the location of the speaker from that associated with the co-speaker.

Two such systems are to be found in Dana and Pashto:

(2) Dana [Koman (Koman/Gumuz?); South Sudan and Ethiopia]
a. *hōn-í* *pɔ́j-**ī***
3PL-PROG run.PL-**VEN1**
'They are running (to me).'
b. *hōn-í* *pɔ́-**wà***
3PL-PROG run.PL-**VEN2**
'They are running (to you).'
c. *hōn-í* *pɔ́j*
3PL-PROG run.PL.Ø
'They are running.' (direction unspecified) (Otero 2019: 150)

(3) Pashto [Indo-European, Indo-Iranian; Afghanistan and Pakistan]
***r**-tləl* 'move towards where I am'
***der**-tləl* 'move towards where you are'
***wer**-tləl* 'move towards where s/he is' (Septfonds 1994: 112–113)

The three-way system of Gilbertese pays attention to the location of the speech participants in relation to the motion event and extra attention to whether the location of the speaker has the status of Goal or Source:

(4) Gilbertese [Austronesian, Oceanic; Kiribati]
biri 'run'
*biri-**mai*** 'run towards where I am'
*biri-**wati*** 'run towards where you are'
*biri-**nako*** 'run away from where I am' (Groves et al. 1985: 26–27)

In Chamorro, the fault line is between direction to where the speaker is and direction to where the speaker is not, with a secondary dichotomy between direction to where the co-speaker is and direction to where a third individual is:

(5) Chamorro [Austronesian, Central Luzon; Guam]
magi 'towards where I am'
guatu 'towards where I am not'
***guatu** guenao* 'towards where you are'
***guatu** guihi* 'towards where s/he is' (Topping 1973: 114–116)

Such systems challenge the notion that directional deixis always involves a straightforward binary ventive/itive contrast. Dana has arguably two distinct ventives, itive direction being marked by the zero morpheme (which presumably is used also in sentences referring to an atelic motion event). Pashto possesses a truly ternary system, essentially involving three person markers in the allative case. In both Gilbertese and Chamorro a binary opposition is subordinate to another, more fundamental, binary opposition. While the fundamental dichotomy in Gilbertese is arguably that between participants in the speech event and non-participants, the overarching opposition in Chamorro is definitely that between speaker and non-speaker.

4. Some design features of systems encoding directional deixis: Canonicity and exceptionality

Mention should be made, by way of introduction, of the types of elements or processes that support directional deixis. While it is common, in particular across Indo-European, for languages to entrust the marking of DD to verbs, it is at least as common, crosslinguistically, for directional deixis to be encoded by means of closed-class morphological material. As seen in Section 3.1, this is the case in Tima, a language that does not possess a lexical verb of "coming" (Alamin et al. 2012: 14) and where instead a ventive marker is suffixed to verbs denoting various types of motion. The forms and processes involved in the encoding of DD would be deserving, in fact, of a comprehensive typological survey and close attention should be paid, in particular, to the use of suprasegmental alterations in a number of languages (see for instance Dimmendaal 2003: 97; Remijsen et al. 2016: 217–220; and Chelimo 2015).

4.1 On the asymmetry of DD systems

As the use of ventive markers rests on identification of the (actual or purported) goal of motion with the deictic centre, their semantics is inherently positive and specific, while the semantics of itives is conversely negative and non-specific. The resulting tension between symmetry and asymmetry is built into DD systems in various ways.

Formally, languages routinely leave itive direction unmarked. Thus, the ventive preverb *mo-* in Georgian (Kartvelian) can combine with such directional preverbs as *a-*, 'upward', and *ča-*, 'downward', but not so the itive preverb *mi-*; as a result, *a-mo-* encodes ventive upward motion, while *a-* alone is interpreted, by default, as referring to itive upward motion (Vogt 1971: 139).

Semantically, the deicticity of itive markers tends to be weaker than that of ventives, to the point of vanishing completely, situation permitting. For instance, as Tanz (1980: 123) points out, *Do you want to come to a movie?* in English implies

that the speaker intends to be at the cinema, a state of affairs that results from the ability of the speaker's location at reference time to function as deictic centre (Fillmore 1975 [1971]). *Do you want to go to a movie?*, on the other hand, carries no implication as to her intention.

In Kemtuik (Nimboranic; Indonesia [Papua province]), it is the inventory of DD markers, as described by Foley (1986: 151–152), that is asymmetrical. While the three ventive suffixes conjointly specify deictic direction and topographical orientation along a vertical axis (upward/horizontal/downward), the six itive suffixes specify in addition the degree of remoteness of the motion event. As a result, the language has twice as many itive directionals as it has ventives. This is in accord with the unmarked status of itives, as it is in general the unmarked member of a binary opposition that exhibits a more fine-grained differentiation (Stolz 1992: 100). Not all languages exhibit this sort of asymmetry, however. Thus, the system of DD verbs in Paama (Austronesian, Oceanic; Vanuatu) is also based on the co-encoding of deictic direction and vertical orientation, but there are as many ventives as there are itives (Crowley 1982: 71). More unusual is the state of affairs in Jingulu (Mirndi; Australia), a language in which directional deixis is handled by portmanteau affixes that co-specify tense: it is the ventive sub-system that would appear to be more fine-grained as its five elements allow for habitual present to be distinguished from non-habitual present, in addition to the tense distinctions also co-encoded by the four itive markers (Chadwick 1975: 25).

4.2 Obligatoriness and multiple exponence

Languages differ considerably as to the degree of systemic attention they pay to directional deixis. At one extreme stand those that make do with no dedicated verbs, morphemes or processes at all or else with verbs or morphemes whose deicticity is pragmatically conditioned: Vietnamese is a case in point (Sophana 1998; Brown 1999: 165–193) and so is Russian (Bourdin 2014: 139–142). At the other extreme are languages that bestow on DD various forms of systemic centrality, two of which are obligatory encoding and multiple exponence.

Obligatoriness, or near-obligatoriness, is a recurrent feature of DD markers when it comes to describing motion events or at least a subset of them. Thus, Hoijer (1946: 298) reports that in Tonkawa (isolate; USA [Oklahoma and Texas]), such verbal stems as 'move' (*ha˙-*), 'throw' (*ka˙-*), 'fly' (*yox-*) and 'swim' (*so˙ya-*) require the ventive suffix (*-ta*) or its itive counterpart (*-na*). In Mandarin, the deictic directionals *lai* and *qu* enter constructions involving a manner-of-motion verb (V) and potentially a non-deictic directional (D). There are three possible patterns: (a) V + *lai/qu*; (b) V + D + *lai/qu*; (c) V + D. Importantly, the third pattern, without *lai/qu*, is constrained, as it requires the presence of a complement NP, typically locative

(Lamarre 2008: 79–81). Obligatoriness is also an integral feature of systems in which the same markers conjointly encapsulate DD and orientation along a topographical axis (uphill/downhill, upriver/downriver, seaward/landward, etc.): Kemtuik, as mentioned in Section 4.1, is a case in point. Near-obligatoriness may be a function also of the degree to which DD is integrated into the grammatical fabric of the language. A telling illustration is provided by Jingulu (see Section 4.1), where verbal roots referring to goal-directed motion in space force the selection of portmanteau morphemes co-specifying tense and DD, as against other verbal roots that require the use of "motion-neutral" tense markers (Chadwick 1975: 33–34).

DD occasionally lends itself to multiple exponence:

(6) Kiowa [Kiowa-Tanoan; USA (Oklahoma)]
*ɔ́:-**dé*** *dɔ́:-**ą́:***
there-**VEN** [3SG]move-**IPFV**[**VEN**]
'He was coming here (towards me from a more distant place).'
(Watkins 1984: 189)

(7) Fante, dial. of Akan [Atlantic-Congo, Kwa; Ghana]
*yɛ̀-**bá**-é* ***bè**-dzí-ì* *bi*
1PL-**come**-PFV **VEN**-eat-PFV some
'We came and ate some.' (Osam 1994: 108)

Karajá goes one step further by allowing triple marking on the verb:

(8) Karajá [Macro-Jê; Brazil (Tocantins state)]
dɪkarə̃ *a-rə̃θə̃da* ***d**-a-**d**-ɪ-wɨ=**d**-ɛrɪ*
I 2-food **VEN**-1-**VEN**-TR-carry=**VEN**-PROG
'I'm bringing your food.' (Ribeiro 2012: 189)

4.3 Associated motion and unrestricted applicability

Not only do the ventive and itive affixes of Karajá exhibit a rare degree of multiple exponence, Ribeiro shows (2012: 175–176) that they can also attach to any verbal stem and he observes that in so doing they display the sort of unrestricted applicability typical of inflectional, as opposed to derivational, morphology (Haspelmath and Sims 2010: 93).

This calls to mind associated motion which, as described in such recent work as Guillaume (2016) and Belkadi (2016), is one well-known mechanism allowing deictic directionals far greater productivity than they exhibit when they can only attach to verbs of motion. In the following example, associated motion is supported by ventive marking on the verb:

(9) Dinka [Nilotic, Western Nilotic; South Sudan]
cwậar *ậ=**kwɛ̀ɛ̀l*** *wɛ́ŋ* *pɛ̂ɛ̂en*
thief.ABS DECL=steal.**VEN** cow.ABS town.LOC
'The thief is stealing the cow, bringing it to the town.' (Andersen 2012: 40)

Andersen (ibid.) comments that (9) refers to two "subevents" sequentially ordered: the theft of the cow is followed by a motion event whose endpoint is the town, identified with the deictic centre.

By definition, there cannot be associated motion unless there is motion in space. That is precisely why the facts of Karajá do not fall under the purview of associated motion:

(10) Karajá [Macro-Jê; Brazil (Tocantins state)]
a. *ka=kɔ* *b-**ø**-ø-ʊdə̃=kɛ*
this=ALL 2-**ITV**-INTR-sit_down=POT
'Sit down here.' (Ribeiro 2012: 182)
b. *ka=kɔ* *bə-**d**-ø-ʊdə̃=kɛ*
this=ALL 2-**VEN**-INTR-sit_down=POT
'Sit down here.' (Ribeiro ibid.)
c. *bə-**d**-ø-ʊrʊ=hɛdə̃*
2-**VEN**-INTR-die=ADMON
'[Be careful,] you may die!' (Ribeiro ibid., 181)

At issue here is the ability of the deictic directionals to encode what Ribeiro (ibid., 49; 180) calls "empathy relationships" between speaker and co-speaker. Thus, the itive prefix in (10a) suggests emotional distance and the ventive prefix in (10b) a closer bond; this would explain why it shows up in (10c), where it imparts urgency to the admonition. What confers inflectional status on the DD markers here is their polyfunctionality rather than, as is probably far more common crosslinguistically, their ability to support associated motion.

4.4 DD proper vs. endophoric anchoring

To the extent that deixis involves reference to a situation of utterance that exists "outside" the text, directional deixis proper is by definition exophoric. In very many languages, however, it is a built-in property of DD markers that they are also able to encode "endophoric anchoring", whereby the motion event is not anchored to the deictic centre, but to a location which is determined intra-textually:

(11) Arbore [Afro-Asiatic, East Cushitic; Ethiopia (Southern Nations state)]
a. *ʔar kár*
VEN get_down.IMP.2SG
'Come down!' (Hayward 1984: 310)
b. *ʔíy ʔar hérrig-is-e*
3SG.IND.DEF.AFFIRM VEN pull-3FSG-PRF.AFFIRM
'She pulled (it).' (Hayward ibid., 311)

In (11a) the direction of motion is anchored deictically, i.e. to the speaker's location, while in (11b) it is anchored endophorically, i.e. to the location associated with the referent of the grammatical subject. The logic is much the same in Dinka:

(12) Dinka [Nilotic, Western Nilotic; South Sudan]
a. *mò̱c à̱=uɻ̀ɔc ṭ̀ɔ̀k*
man.ABS DECL=buy goat
'The man is buying a goat.' (Andersen 2012: 48)
b. *mò̱c à̱=**uɻ̀ɛ̂ɛc** ṭ̀ɔ̀k*
man.ABS DECL=buy.ITV goat
'The man is selling a goat.' (Andersen ibid.)

While in (11b) and (12b) the motion is initiated and controlled by the individual denoted by the grammatical subject, in the following example it is controlled by the moving Figure itself:

(13) Datooga [Nilotic, Southern Nilotic; Tanzania]
qwà-dàahàan dúgà
3SG-see.MOBILITIVE.VEN cattle
'He saw the cattle coming his way.' (Kießling 2007: 130)

It is not unusual for languages to select as anchor the dwelling of the moving Figure or some salient location associated with the main character in a narrative. Far more unexpected are the valuation effects that are, in Laz, the result of such endophoric anchoring:

(14) Laz [Kartvelian; Georgia and Turkey]
*ǩapaɣi tencere **mo**-zun*
lid pot VEN-lie.3ABS.SG.PRS
'The lid is on the pot.' (Kutscher 2011: 70)

According to Kutscher (ibid., 69–71), the preverb *mo* specifically implies perfection of fit between the lid and the pot. While it is uncommon for a ventive marker to support that particular meaning, I agree with Kutscher that it can be transparently related to its fundamental deicticity. However, I would take issue with her claim that the pot here is a deictic centre, because in my view this would amount to conflating

endophoric anchoring with deictic anchoring *per se*. The pot, rather, is the natural or "favoured" destination for the lid, just as the deictic centre is a "favoured" location by virtue of being prototypically associated with the speaker or co-speaker.

Bourdin (2003) has suggested that such centering/decentering effects account for a range of uses of deictic directionals that at first blush are far removed from motion in space. As such, they instantiate various types of polyfunctionality. One of these involves the grammatical mechanism of switch reference, whereby some type of formal encoding signals coreference or non-coreference between the subjects of two clauses in paratactic or hypotactic relation. It so happens that in Yavapai and other Cochimi-Yuman languages spoken in the USA (Arizona and California) and Mexico (Baja California state), ventive and itive markers are known to function as "same-subject" and "different-subject" markers, respectively (Kendall 1975; Jacobsen 1983: 160–161 and 175–176). Though probably rare crosslinguistically, this sort of behaviour is transparently related to the ability of DD markers to encode endophoric anchoring: once a "favoured" location is established, the ventive marker signals identification and the itive differentiation.

4.5 DD and the internal temporal structure of the motion event: The case of Assiniboine

How languages negotiate the co-encoding of directional deixis and of the phases of the motion event constitutes another important variable, with in particular many languages (e.g. Classical Latin and Icelandic) conflating, in various ways and to varying degrees, motion to(wards) the deictic centre and arrival at Goal (Ricca 1993; Bourdin 1999).

Cumberland (2005: 283–305) shows how this co-encoding, which in itself is again hardly exceptional, is handled by the DD system in Assiniboine (Siouan; USA [Montana] and Canada [Saskatchewan]) and how this is achieved in conjunction with deictic anchoring proper as well as with a special type of endophoric anchoring. The language possesses an array of eight basic motion verbs, each of which co-specifies (a) whether the Goal of motion is the deictic centre or not; (b) whether it is the Figure's home base or not; (c) whether motion is observed as being in progress or reaching its endpoint. What is most distinctive about the system, and seemingly idiosyncratic, is that the four remaining "departure" verbs are compounds formed by combining the basic verbs. When for instance Lx is both a location distinct from the deictic centre and the Figure's base, *knÁ* refers to motion in progress in the direction of Lx and *kʰí* refers to arrival at Lx; it follows that departure in the direction of Lx is encoded by *kʰí-knÁ*. Unless further research should prove otherwise, such an arrangement may well be unique.

5. Exceptional targeting in Somali, Uduk and Gumuz

Given the range of parameters of variation that has been outlined in Parts 3 and 4, there are probably few systems that challenge our expectations with regard to how DD operates quite to the degree that the Somali, Uduk and Gumuz systems do. In some instances, it appears as though the semantics of the itive marker in Somali and Uduk and the ventive marker in Gumuz were the product of piecing together features that do not normally hold together, the end result being configurations that appear, at first blush, to be wholly idiosyncratic and as such to defy explanation.

The DD systems in Uduk and Gumuz share some notable features, which is likely to be the product of areal contact (Bender 1997: 63), genealogical kinship (see below), or both (Dimmendaal et al. 2019: 331). The original homeland of Uduk speakers is located in a small area of southeastern Sudan close to South Sudan and the language is nowadays spoken in a region that straddles both states (Killian 2015: 4–6; Dimmendaal et al. 2019: 332); Gumuz is spoken further to the east, over a much vaster area of northwestern Ethiopia and adjacent regions in southeastern Sudan (Ahland 2012: 3–4; Dimmendaal et al., ibid.). Uduk belongs to the Koman group of languages which, according to Bender (2000: 46), is a distinct family within the putative "Nilo-Saharan" phylum; Dimmendaal (2008: 843) is doubtful that Koman languages belong to Nilo-Saharan, while Dimmendaal et al. (2019: 331) suggest they may be "outliers" within Nilo-Saharan. Likewise, scholars are not in agreement as to whether the language group to which Gumuz belongs represents a distinct family within the Nilo-Saharan phylum or constitutes an isolate (Bender 2000: 46 and 55–56; Ahland 2012: 21–30; Killian 2015: 3–4). Dimmendaal et al. (2019: 332) refer to this language group as "B'aga". While the possibility of a genealogical link between the Koman and B'aga languages is a question that remains unsettled (Güldemann 2018: 298–99), recent scholarship would suggest that such a link has a relatively high degree of plausibility (Ahland 2013; Dimmendaal et al. 2019). This is intriguing because of the strikingly peculiar similarities between them in the area of directional deixis, to be described in the following sections.[8]

8. Indeed, the feature of altrilocality, to which we return presently, is mentioned by Dimmendaal et al. (2019: 339) as belonging to the range of morphosyntactic features common to Koman and B'aga languages.

5.1 The basics

Somali entrusts the marking of directional deixis to two clitic elements: *soo* and *sii*. In (15a) and (15b), they behave like a run-of-the-mill ventive and a standard-issue itive, respectively:

(15) Somali [Afro-Asiatic, East Cushitic]
a. *wuu* ***soo*** *soc-daa*
FOC.3MSG **VEN** walk-PRS.3MSG
'He's coming towards me.'
Or: 'He's coming towards you.' (Bourdin 2006: 14)
b. *wuu* ***sii*** *soc-daa*
FOC.3MSG **ITV** walk-PRS.3MSG
'He's going (…towards a location distinct from where I am and from where you are).' (Bourdin ibid.)

According to Ahland (2012: 201–206), directional deixis is handled in Gumuz by a ventive suffix (*-é*):

(16) Northern Gumuz [Gumuz (Koman/Gumuz?); northwestern Ethiopia and southeastern Sudan]
*d-á-kwáá-****é***
AFFIRM-3SG.INTR-return-**VEN**
'S/he returned here (towards speaker).' (Ahland 2012: 70)

Itive direction is unmarked in Southern Gumuz and only occasionally encoded by the suffix *-(i)ʒ* in Northern Gumuz.

Uduk, as described by Killian (2015: 207–210), has both a ventive suffix (*-ú* or *-ʔú*) and an itive suffix (*-kú* or *-kúʔ*). The contrast between the two is especially striking in the following example:

(17) Uduk [Koman (Koman/Gumuz?); southeastern Sudan, adjacent to Ethiopia]
*yà-****kú*** *yúk̲-á* *áɗī* *ì* *yà-****yú*** *e˝* *mɛ̀ɗ*
go.SG-**ITV** call-ASP.DIR2 3SG LINKER go.SG-**VEN** LOC.DUR:GENDER1 hand
'Go call him to come right away.'
(Beam and Cridland 1970 [1956], cited by Killian 2015: 207)

As well, Uduk, like other Koman languages, possesses "aspect/directional" markers suffixed to the verb that "can convey a range of aspectual and deictic meanings" (Killian 2015: 180), with DD featured prominently among those meanings. This implies, as pointed out by Killian (ibid.), that Koman languages encode DD by means of inflectional markers, which is "typologically unusual" (but see Section 4.3 above). It would take me too far afield to address the interaction between the itive

and ventive suffixes and the aspect/directional suffixes and I will therefore leave the latter markers aside.

In all three languages, the DD markers are compatible with non-motion verbs.

When combining with such verbs, both *soo* and *sii* in Somali typically encode associated motion:

(18) Somali
soo *seexo*
VEN sleep.IMP.2SG
'Go have a rest (and then come back here).' (Bourdin 2006: 17)[9]

Soo here indicates that the process of sleeping is framed by a round trip and that the destination of the return segment will be the deictic centre.

When suffixed to a non-motion verb, the ventive suffix of Gumuz routinely encodes altrilocality.[10] Thus, whereas (19a), without the ventive suffix, refers to a state of affairs that took place at the place of speech, (19b), because of the ventive suffix, implies that it took place somewhere else:

(19) Southern Gumuz
a. *b-ár-háál-agá-ʃ* *ma-tíi* *ambogwa*
AFFIRM-1SG.TR-be_unable-NFUT-CLF NMLZ-shoot bushbuck
'I wasn't able to shoot the bushbuck (here).' (Ahland 2012: 204)
b. *b-ár-háál-agé-**é**-ʃ* *ma-tíi* *ambogwa*
AFFIRM-1SG.TR-be_unable-NFUT-**VEN**-CLF NMLZ-shoot bushbuck
'I wasn't able to shoot the bushbuck (at that place over there).'
(Ahland ibid.)

The encoding of altrilocality by means of a ventive marker is an interesting phenomenon in itself. The topic has been addressed by Chadicists such as Frajzyngier in his grammars of Pero (Frajzyngier 1989: 94–96) and Lele (Frajzyngier 2001: 194–195) and it is also the topic of a paper by Jungraithmayr (2003), from whom the term "altrilocality" is borrowed.[11] In Pero as well as in Lele, the ventive marker specifically

9. As shown by Bourdin (2006: 18–19), sentence (18) lends itself to other interpretations. However, these can be ignored here.

10. According to Dimmendaal et al. (2019: 339), altrilocality in Gumuz and in Uduk is attested with "non-translational motion verbs". However, 'shooting' in (19b) below is not a motion verb and indeed Ahland (2012: 203) observes that the use of the ventive suffix as a marker of altrilocality is "reserved for non-motion verbs". This is also how altrilocality operates in Uduk, according to Killian (2015: 209–210).

11. Neither Ahland (2012) nor Killian (2015) actually use the term "altrilocality". Dimmendaal et al. (2019: 339) do not use it, either.

indicates both that the state of affairs takes place away from the place of speech and that it is followed by a motion event towards that place; this implies that altrilocality is a specific instance of associated motion. As far as Gumuz is concerned, Ahland (2012: 203–204) shows that the ventive marker does sometimes encode associated motion, but she does not specifically indicate whether in examples such as (19b) it co-encodes altrilocality and associated motion. The ventive suffix of Uduk, likewise, frequently encodes altrilocality, with no indication as to whether subsequent motion to the deictic centre is involved (Killian 2015: 209–210). It cannot be ruled out, of course, that in both languages reference to such motion was the initial trigger for the marking of altrilocality, albeit a meaning that has faded in the course of diachronic evolution.

While they also involve co-occurrence with non-motion verbs, the uses of the itive clitic in Somali, the itive suffix in Uduk and the ventive suffix in Gumuz that I will now focus on are not amenable to an explanation in terms of associated motion or altrilocality, at least as these concepts are usually understood.

5.2 The challenge

The least that can be said about the semantics of the ventive suffix in the following sentences is that it is unexpected:

(20) Southern Gumuz

a. *tʃ-é* *kú-χosa*
emit[IMP.2SG]-**VEN** milk-bovine
'Milk the cow!' (i.e. the cow is here and I will be leaving)
(Ahland 2012: 204)

b. *á-tʃ-é* *kú-χosa*
PRFX[←go(?)]-emit[IMP.2SG]-**VEN** milk-bovine
'Milk the cow!' (i.e. the cow is over there but I will stay here)
(Ahland ibid., 205)

Both sentences refer to a process of milking the cow to be carried out by the co-speaker. Associated with the process is a motion event whose endpoint is specifically distinct from the deictic centre: this, obviously, is inconsistent with the usual semantics of ventive markers. In (20a), the motion is not anterior to the process, the Figure that moves is the speaker and the deictic centre is the Source. In (20b), the motion is anterior to the process, the Figure is the co-speaker and the Goal cannot be the deictic centre.

The following Somali sentence is ambiguous:

(21) Somali
sii *seex*
ITV sleep.IMP.2SG
i. 'Get some sleep (while you're travelling away from here)!'
ii. 'Get some sleep while I'm gone!' (Bourdin 2006: 21)

The first interpretation is in keeping with the way markers of associated motion operate: the process of sleeping is framed by a motion event and as *sii* encodes itive direction, the motion is specifically towards a place other than the deictic centre. Importantly, the Figure that is to move and the individual who is to sleep are one and the same person. The second interpretation is completely unexpected: there is a process of sleeping and there is an associated motion event, but they involve different individuals. (In what follows "(21ii)" is shorthand for "sentence (21) under the (ii) interpretation").

Just as unfathomable, on the face of it, can be the behaviour of the itive suffix of Uduk:

(22) Uduk
a. *c̲ā'b-**kú*** *bèsénē*
sit.SG-ITV *bèsénē*
'Goodbye, stay well.' (said to one who is staying) (Killian 2015: 241)[12]
b. *áhā mì-ná à dì-**kú** mò*
1SG do.AUX.IPFV-1SG LINKER exist.SG-ITV *mò*
'I can remain behind.' (Killian ibid., 208)[13]

In (22a), which is a parting expression, the co-speaker is staying put and it is the speaker who is leaving. In (22b), the speaker intends to stay in the house, while other people are going to be away.

5.3 Towards an explanation: Canonical targeting vs. exceptional targeting

In order to try and make sense of the data in (20), (21ii) and (22), I propose to go further in the unpacking of both directional deixis proper and endophoric anchoring. In so doing, I will build on the account offered by Bourdin (2006) for Somali *sii*. However, the facts of Uduk and Gumuz impose digging deeper.

I submit that directional deixis involves four basic components and an abstract operation. The components are an event of motion in space, a Goal, a Figure and

12. The word *bèsénē* is unglossed. It expresses well-wishing, a "blessing of peace" (Beam and Cridland 1970: 30).

13. No gloss would do justice to the "complex use" of the "particle" *mò* (Killian 2015: 13).

an anchor, which is the deictic centre or else some location defined intra-textually in the case of endophoric anchoring. The abstract operation consists in either identifying a variable with the anchor or in differentiating it from the anchor. The variable that is targeted by this operation is "normally" the Goal: targeting the Goal yields canonical directional deixis and canonical endophoric anchoring. What the occasional behaviour of DD markers in Somali, in Uduk and in Gumuz suggests is that the variable targeted can exceptionally be the Figure: targeting the Figure yields exceptional directional deixis and exceptional endophoric anchoring. The four resulting possibilities are presented in Table 1:

Table 1. Canonical and exceptional targeting of variables

Canonical targeting: target = Goal	Canonical directional deixis prototypical anchor = L_{DC} prototypical Figure = Su	Canonical endophoric anchoring prototypical anchor = L_{SU} prototypical Figure = non-Su
Exceptional targeting: target = Figure	Exceptional directional deixis prototypical anchor = Sp Goal: t.b.d. pragmatically	Exceptional endophoric anchoring prototypical anchor = Su Goal: t.b.d. pragmatically

Sp = speaker
Su = referent of the grammatical subject
L_{SU} = location associated with Su

Canonical directional deixis and canonical endophoric anchoring are goal-oriented to the extent that the Goal is the variable that is targeted, i.e. that needs to be identified with the anchor or differentiated from it. It follows that the anchor is a location.

In the case of canonical DD, the prototypical scenes are 'Su moves towards my location' (ventive direction) vs. 'Su moves towards a location that is not my location' (itive direction). The anchor is the location identified with the deictic centre (L_{DC}).

In the case of canonical endophoric anchoring, the prototypical scenes are 'Su pulls some object towards her own location' (ventive direction) vs. 'Su pushes some object towards a location other than her own location' (itive direction). The anchor is L_{SU}, i.e. the location prototypically associated with Su, and the Figure is prototypically an individual or entity other than Su.

Sentences (20a) and (20b) in Gumuz, sentence (21ii) in Somali and sentences (22a) and (22b) in Uduk involve exceptional targeting: the variable being targeted is not the Goal, but the Figure or one of the Figures. It follows that the anchor is not a location, but an individual.

In the case of exceptional DD, instantiated by (20a) and (20b), the anchor is prototypically Sp and the ventive marker signifies that the targeted Figure is identified with Sp in both sentences. That much seems uncontroversial. But how do we account for the fact that the speaker moves away from the place of speech in (20a) and remains there in (20b)? I would venture that the interpretation of these

sentences is constrained by the pragmatics of the situation in conjunction with two general principles, P1 and P2: P1 disallows two distinct simultaneous motion events involving two different Figures; P2 holds that Figures move, unless a violation of P1 would ensue (and barring altrilocality).

Sentence (20a) is uttered in a situation where the milking of the cow is to be performed at the place of speech. This entails that the co-speaker, who is also Su, stays put. By virtue of P2, the Figure, i.e. Sp, moves and the Goal is by necessity a location distinct from the place of speech.

Sentence (20b) is uttered in a situation where the milking of the cow is to be performed at a location distinct from the place of speech. This entails that the co-speaker, who is also Su, needs to move to that particular location and indeed Ahland (2012: 204) points out that this is what the *á-* prefix on the verb entails (even though its specific etymology is somewhat uncertain). If the targeted Figure, i.e. Sp, were also to move, P1 would be flouted: it follows that the speaker stays put.

In the case of exceptional endophoric anchoring, the anchor is prototypically Su and the itive marker signifies that the targeted Figure is differentiated from Su: this is exactly what happens in both (21ii) and (22). In the Somali sentence (21ii), the speaker is a prime candidate to the status of Figure, though it need not be as will be seen in Section 5.4. The same logic applies in the Uduk sentence (22a). In (22b), Su, the anchor, is none other than the speaker, so that the targeted Figure is necessarily some other individual or group of individuals, the co-speaker(s) being a prime candidate. It is plausible to assume that in configurations such as these the type of motion and the Goal are pragmatically determined: (21ii), for instance, presupposes a return trip, the final destination of which is the deictic centre.

While some of the ancillary assumptions made in this section are admittedly tentative, the concept of exceptional targeting rests, I would venture, on more solid ground, if only because it constitutes the explanatory thread binding together the behaviour of the ventive marker in Gumuz and that of the itive markers in both Somali and Uduk.

5.4 An alternative explanation

Claudi (2012) offers a detailed account of Somali *soo* and *sii*, which in part complements Bourdin (2006), while as well reanalysing some of the data therein and providing further data, which she also analyses. She notes (ibid., 84) the "deviant behaviour" of *sii* in sentences such as (21ii) and proposes an account based on the "antipodal" relationship between ventive *soo* and itive *sii*: essentially, if *soo* involves motion by the co-speaker, as it does in (18) above, then *sii* in (21ii) must involve motion by the speaker.

While it is sometimes fruitful to invoke the "antipodal" relationship between ventives and itives, the following example is hard to reconcile with Claudi's explanation:

(23) Somali
halkan ha ***sii*** *fadhi-yo*
here OPT **ITV** sit-OPT.3MSG
'Let him stay here (until I come back or until somebody else comes back).'
(Bourdin 2006: 22)

If the meaning of *sii* here were a function of its antipodal relationship with *soo*, then *sii* should mean the opposite of what *soo* would mean if it were substituted for *sii*. However, there is no way, for obvious reasons, that the sentence resulting from replacing *sii* with *soo* in (23) could possibly mean 'Let him stay here (until he comes back)'.

In addition, it is not necessarily the case that the individual moving would be the speaker and (23) is evidence of this. The identity of the targeted Figure is dependent on the situation, exceptional endophoric anchoring (within the framework I propose) requiring only, if the DD marker is *sii*, that the targeted Figure should not be the referent of the grammatical subject. The following example provides further evidence:

(24) Somali
halkan buu ***sii*** *fadhi-yi*
here FOC.3MSG **ITV** sit-INF
'[The child] is going to stay here while you're away.'
Hence: 'He is going to wait for your return.' (Bourdin 2006: 23)

I believe, therefore, that an explanation based on the logic of exceptional targeting is better suited to account for the facts of Somali. Its plausibility is enhanced by the fact that the same basic logic appears to be also operative in Uduk and Gumuz. Thus far, I have found no language other than these three where it is implemented; pending further research, the term "exceptional" is therefore appropriate.

As I have tried to show, exceptional targeting makes sense as long as certain assumptions are made with respect to the nature of DD markers and the centrality of the abstract operations involved: fundamentally, ventives are conjunctive markers, while itives are disjunctive. There is a typologically well-grounded expectation that these operations would target a location in space, namely the Goal of motion. What Gumuz, Somali and Uduk demonstrate is that the individual who moves (or in some cases turns out not to) can also be, albeit "exceptionally", a target: in this case, the anchor is no longer a location, but an individual.

One alternative way of accounting for such typologically idiosyncratic data as (20) to (24) might be to claim, conceivably, that canonical directional deixis and

canonical endophoric anchoring are here overridden by a mechanism reminiscent of switch-reference (see Section 4.4). However, the sentences at issue exhibit two features that stand in the way of such an account. First, the syntactic structure, except possibly in (22b), is monoclausal. Second, motion in space is invariably involved. This second feature is crucial: someone, in these sentences, is necessarily moving, the issue being her identity rather than the location of the Goal, as is the case in the canonical uses of DD markers.

6. Conclusion

In Part 2, I attempted to delineate directional deixis (DD) as a descriptive category and special attention was paid to goal-orientedness as an essential meaning component of DD.

The purpose of Part 3 was specifically to explore how directional deixis may interact with positional deixis on the one hand and with person deixis on the other. A more general objective was to begin gaining some appreciation of how notionally plastic DD is, more precisely of the tension between the core elements that make up the category and the singularity of their implementation in any given language. It was deemed useful, in this context, to analyse in some detail the interplay of directional deixis and positional deixis in Tima.

How directional deixis works in practice is a topic that was addressed in Part 4.

Firstly, there lies at the core of DD systems a fundamental imbalance between the intrinsically conjunctive semantics of ventive markers and the disjunctive semantics of their itive counterparts: this sets the scene for various types of asymmetry, though without necessarily ruling out symmetry. Secondly, some languages do without DD systems, while in others directional deixis lends itself in some cases to obligatory encoding and/or to multiple exponence. Thirdly, while the kind of across-the-board applicability typical of inflectional morphology is usually eschewed by DD systems, the mechanism of associated motion extends the range of ventive and/or itive marking appreciably, by allowing it on non-motion verbs. Far more seldom, it would appear, does the polyfunctionality of the relevant markers guarantee that they are compatible with just about any verbal stem: in this respect, the DD system of Karajá is likely to be an extreme case.

In Sections 4.4 and 4.5, two other features of DD systems that are endemic across languages were addressed. One is the ability of ventive and/or itive markers to handle endophoric anchoring, whereby the direction of the motion event is specified in relation to some text-internal "projection" of the deictic centre, commonly a location associated with the referent of the grammatical subject. The other feature is the fairly frequent sensitivity of DD systems to the internal temporal structure of

motion events. The system in Assiniboine confounds expectations not only because it combines such sensitivity with an unfailing attention to both DD proper and endophoric anchoring, but also because the morphological resources of the language are exploited to that effect in a way that is profoundly original.

Finally, Part 5 dealt with the even "stranger" behaviour of the itive markers of Uduk and Somali and the ventive marker of Gumuz. An account was offered that involves a significantly enriched conception of directional deixis and endophoric anchoring. It is based on the proposition that these three languages sometimes instantiate "exceptional targeting". This means that the variable that is targeted by the operation of identification or differentiation is not the Goal of motion, as is the case with canonical DD systems, but a Figure that moves – or fails to move, as sometimes happens in Gumuz. This redefinition of directional deixis and endophoric anchoring involves a set of ancillary assumptions that the paucity of data available, especially in Uduk and Gumuz, renders avowedly tentative and exploratory, all the more so as it is unknown at this stage whether the very unusual facts observed in Somali, Uduk and Gumuz are unique to these languages.

It has been found that in all three languages exceptional targeting coexists with canonical targeting. This suggests that their DD systems, while more complex than mainstream systems, rest, to a crucial extent, on the basic conceptual foundations that define directional deixis as a descriptive category. Canonical targeting is compulsory when the verb refers to motion. When it does not, exceptional targeting takes over. In this situation, however, two other avenues may be taken by DD systems: altrilocality, which seems, pending further research, to be relatively uncommon across languages (and in any event may only be encoded by ventive markers), and associated motion, a phenomenon that in recent years has been shown to be more widespread than had been thought initially.

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PART II

Motion and asymmetries

CHAPTER 6

Implicit landmarks and opposite polarities in French motion predicates

Michel Aurnague
Lattice, National Center for Scientific Research (CNRS) /
École Normale Supérieure – PSL / Université Sorbonne Nouvelle

This chapter tackles two important aspects of the association of French motion verbs and spatial PPs. The main notions used in order to characterize strict motion predicates are first recalled. The possibility, for the verbs, of appearing in constructions that do not express the landmark entity of the motion event is studied (implicit landmark constructions), and it is argued to depend on the spatio-temporal structure of the verbs and on various other factors. Then, the association of verbs and PPs with opposite polarities is examined which turns out to be in close correlation with the existence of an "implicit use". The conclusion emphasizes the asymmetries/dissymmetries between initial and final motion events revealed by the constructions studied.

Keywords: asymmetry, initial and final motion events, lexical semantics, spatial PPs

1. Introduction

This study is mainly concerned with intransitive or "indirect" transitive verbs of French denoting the autonomous motion of a target[1] or located entity (e.g. *aller* + *Prep* 'to go + Prep', *arriver* 'to arrive', *entrer* 'to go into, to enter', *partir* 'to leave', *se rendre* 'to go to', *sortir* 'to go out').[2] These lexemes often combine with locative PPs

1. According to Vandeloise's (1991) terminology. The located element of a static or dynamic spatial relation is called "trajector" by Langacker (1987) and "figure" by Talmy (1985, 2000). The locating or reference entity will be designated "landmark" (Langacker 1987; Vandeloise 1991), a term which is equivalent to Talmy's (1985, 2000) "ground".

2. *Aller* is the only verb of the list to appear with a preposition because, besides its use denoting a simple "change of placement" (e.g., *Elle était allée par tout le village, de chemin en chemin…* 'She had gone throughout the village, from street to street…' (M. Van der Meersch, *Invasion 14*,

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in spatial utterances, so my aim is to clarify the semantic properties that govern some of these constructions. More precisely, I would like to address two specific questions. Is it possible for the verbs studied to appear in sentences without an overtly expressed spatial PP? Moreover, can a verb co-occur with a PP when these two elements have opposite "polarities"?

For this analysis I use the classification of intransitive motion verbs of French proposed in (Aurnague 2011). In this classification, motion processes are characterized by means of the notions of change of placement and change of basic locative relation. These two notions open the way to a refinement of the traditional "path" component of motion events (Talmy 1985, 2000) and organize French movement and motion predicates along a continuum from near staticness to true motion. The former concept makes it possible to distinguish the verbs denoting a change of placement within the terrestrial/earth's reference framework – e.g. *avancer* 'to advance, to move forward', *foncer* 'to tear along', *glisser* 'to slide (along)', *grimper* 'to climb', *marcher* 'to walk', *patrouiller* 'to patrol', *zigzaguer* 'to zigzag along' – from the predicates describing a movement/motion restricted to the target's own frame of reference – "changes of posture"; e.g. *s'asseoir* 'to sit down', *s'agenouiller* 'to kneel down', *s'étirer* 'to stretch', *se lever* 'to get up', *se recroqueviller* 'to huddle', *se (re) tourner* 'to turn over, turn round'. The notion of basic locative relation stems from Boons (1987) who used it for differentiating between verbs of action on entities such as *adosser* 'to stand/lean (the back) against', *défricher* 'to clear' or *dévisser* 'to unscrew, to undo' and verbs like *chasser* 'to chase out/away', *enfourner* 'to put in the oven/kiln' or *hisser* 'to hoist': whereas one can put the back of a cupboard (*adosser*) against a wall with which the cupboard was already in contact (the negated and then asserted relation is *être adossé à* 'to stand (the back) against' and not a basic locative relation like *être contre* 'to be against'), the eventuality introduced by a verb such as *enfourner* is definitely underlain by the negation and later assertion of the basic locative relation *être dans* 'to be in'. Verbs of change of placement do not entail, by themselves, any change of basic locative relation with respect to the landmark potentially mentioned in the sentence (e.g. *Max a marché dans la forêt* 'Max walked in the forest'), contrary to verbs denoting a true motion (verbs of motion in the strict sense) like, for instance, *entrer* 'to go in, to enter' (negation and assertion of *être dans*). However, the possibility displayed by predicates of motion in the strict sense of combining with a PP headed by the preposition *par* 'by' (Aurnague and Stosic 2002; Stosic 2002, 2007) – through the "path" interpretation

1935)), it very often combines with (static) spatial prepositions (in particular with *à* 'at': cf. Example (12)) with which it tends to form *verbal locutions* that introduce a "change of relation and placement" with final "polarity" (see below and Section 2). Moreover, unlike verbs of change of placement underlain by the notion of "tendentiality" (see below), the use of *aller* that denotes a simple change of placement – illustrated above – is not very common in current French.

of the preposition – seems to indicate that a verb such as *se poser* 'to land, to settle' does not belong to this category (unlike *entrer*), although it does bring into play a change of basic locative relation (relation of support/contact: *être sur* 'to be on'):

(1) ?(?)*L'oiseau s'est posé sur la maison par le jardin*.
'The bird landed/perched on the house through the garden'

(2) *L'oiseau est entré dans la maison par le jardin*.
'The bird went into the house through the garden'

In my view, the contrasts revealed by the association with a *par*-headed PP can be explained by the fact that the semantics of motion verbs in the strict sense combines the notion of change of basic locative relation **and** that of change of placement. The evaluation of these notions involves two distinct referents: the terrestrial frame of reference for the change of placement and the landmark entity – explicitly mentioned or not – for the change of basic locative relation. Moreover, they give rise to a rich range of combinations as changes of placement do not entail, by themselves, any change of relation (cf. *supra*) and, conversely, some changes of basic locative relation (e.g. relation of support/contact; cf. *supra*) do not go together with a change of placement (see (Aurnague 2011) for further developments on this point).

The observation of the interactions between these two concepts led me to highlight the semantic properties of the French predicates of change of placement which, in combination with an accurate "final" PP, can refer to a change of relation and placement (besides a reading based on a bare change of placement: Aurnague 2011). Four properties have been brought to the fore: speed of motion (e.g. *Max a couru/foncé dans le couloir* 'Max ran/tore in(to) the corridor'), intentional opposition to a force (e.g., *Max a rampé/s'est traîné sur la terrasse* 'Max crawled/dragged himself on(to) the terrace'), direction or linear oriented motion (e.g., '*Le chamois a dévalé/est descendu dans le ravin* 'The chamois tore/went down in(to) the ravine') and, finally, carrying along by a force (e.g., *Max a glissé/dérapé sur le bas-côté* 'Max slid/slipped on(to) the verge'). The predicates at issue can include in their semantics several of the properties mentioned (for instance, the non-intentional use of *dégringoler* 'to tumble' combines speed, direction and carrying along by a force) and I make the assumption that these features make up a family resemblance underlying the concept of "tendentiality" (the change of placement has the potentiality to "tend" towards a landmark or goal). A full presentation of the theoretical framework used to analyze the meaning of motion predicates is set out in (Aurnague 2011, 2012), including references to the most relevant research on this issue at both the syntax-semantics interface (e.g. Jackendoff 1983, 1990, 1996; Levin 1993; Levin and Rappaport Hovav 1992) and the semantic level (e.g. Slobin 2003, 2004; Talmy 1985, 2000).

In this chapter, I intend to better understand how verbs of motion combine with spatial PPs, paying attention to predicates of change of relation and placement (e.g.

aller + Prep 'to go + Prep', *arriver* 'to arrive', *s'échapper* 'to escape', *entrer* 'to go into, to enter', *partir* 'to leave'). Section 2 sets out the class of verbs under examination and the way they have been classified (Aurnague 2011). Following this (Sections 3 and 4), the categorization of changes of relation and placement serves to explore and predict the possibility (or otherwise) of integrating the verbs into implicit landmark constructions (without a pronominal marker). On the basis of this anaphoric data, Section 5 investigates the association of verbs and PPs which have opposite polarities. The chapter ends with several considerations on the asymmetry/dissymmetry of initial and final polarities within dynamic descriptions of French.

2. Intransitive verbs of change of relation and placement: Spatio-temporal classification

This section gives the outline of the classification proposed in (Aurnague 2011) with regard to intransitive (or indirect transitive) predicates of change of relation and placement. This classification is grounded in the most representative verbs of the lists included in (Laur 1991), which themselves follow from the inventories made in (Boons 1991; Boons et al. 1976; Gross 1975; Guillet 1990; Guillet and Leclère 1992). The concept of **polarity** already mentioned, plays an important part in this classification and is given a precise definition based on the notion of change of relation. A motion in the strict sense (change of relation and placement) is said to be "initial" if the change of basic locative relation that underlies it consists in the assertion of the relation and its negation ("positive" information is initial: r $\cdots\triangleright$ $\neg$r).[3] Conversely, the polarity is "final" when the assertion of the basic locative relation follows its negation (final positive information: $\neg$r $\cdots\triangleright$ r). A "medial" change of relation will be characterized by positive information (assertion of the relation) preceded and followed by the negation of the underlying relation ($\neg$r $\cdots\triangleright$ r $\cdots\triangleright$ $\neg$r): unlike most approaches that do not clearly define the notion of medial polarity, I thus claim that, with the exception of verbal locutions like *couper par* 'to cut across' or *passer par* 'to go through', very few French intransitive verbs denoting changes of relation and placement can be considered as medial.

Eight categories of verbs have been distinguished – four initial and four final – according to the way changes of basic locative relation and changes of placement combine in their semantics. They are summarized in Table 1 and I briefly comment on them. The category of verbs referring to an **independent initial change of relation** is mainly represented by *partir* 'to go (away), to leave' and, to a lesser extent, by *s'en*

3. The symbol "$\cdots\triangleright$" used here and subsequently indicates the transition from one state (in the present case, a basic (static) spatial relation) to another: s1 $\cdots\triangleright$ s2.

aller (as well as by colloquial variants like *se barrer* 'to go (away), to clear off'). The basic locative relation – asserted and then denied – underlying these predicates cannot be reduced to the sole configurations of inclusion/containment and often seems to better fit with the situations denoted by the preposition *à* 'at' in its static locating uses (Aurnague 2004; Vandeloise 1988). The second characteristics of these verbs lies in the fact that they are restricted to the initial change of relation (and placement) and do not include in their semantics the "subsequent" motion to which the final PP refers when added to the sentence (see Table 1; the subsequent motion corresponds to the event e'). The sentence *Max est parti à l'université à 8 heures* 'Max left for the university at 8 o'clock' is thus spatio-temporally equivalent to the description in discourse *Max est parti à 8 heures. Il allait à l'université* 'Max left at 8 o'clock. He was going to the university' ("Background" relation). Besides the modification by a temporal adverbial headed by *en* 'in', several imperfective utterances strengthen the statement that the processes underlying this kind of verbs are centered on the change of relation and placement alone. This is the case with sentences in the imperfect including a temporal subordinate clause (3). The eventuality introduced by the subordinate clause of (3) is thus contemporary with the initial change of relation rather than with the motion that may follow (unless one reinterprets/accommodates the sentence by substituting *aller/se rendre à* 'to go to' for *partir à*).

(3) *Max partait à l'université lorsqu'il s'est mis à pleuvoir.*
'Max was leaving for the university when it started to rain'

S'échapper 'to escape', *s'enfuir* 'to run away', *se sauver* 'to run away' – as well as the more colloquial verbs *se carapater* 'to skedaddle', *se cavaler* 'to clear off', *se tailler* 'to beat it', *se trotter* 'to dash (off)', etc. – introduce an **extended initial change of relation** and, on the basis of this criterion, constitute a second category of predicates. As in the previous group of verbs, the process described is fulfilled as soon as the change of relation takes place (*Pollux le chien s'est échappé du restaurant* 'Pollux the dog escaped from the restaurant' is true immediately the target left the restaurant) and their semantic content seems, here again, to be centered on the initial change of relation and placement. However, other linguistic tests incorporating a final PP indicate that, in such constructions, these verbs may refer to a motion subsequent to the initial change of relation and placement ((4): the event evoked by the subordinate clause can take place during the subsequent motion).

(4) *Max s'enfuyait/se sauvait au village lorsqu'il s'est mis à pleuvoir.*
'Max was running away to the village when it started to rain'

The ambivalent behavior of extended initial changes of relation – centering on the change of relation but with possible reference to a subsequent motion – is further illustrated by utterances that deny the fulfilment of a subsequent motion, as their

interpretation may be less immediate than for independent initial changes of relation: ?*Max s'est enfui/sauvé au village mais il n'y est jamais arrivé* 'Max ran away to the village but he never got there' vs. *Max est parti à l'université mais il n'y est jamais arrivé* 'Max left for the university but he never got there'.

The predicates of this second class differ by two main points from independent initial changes of relation: they highlight the speed of the motion and, at the same time, emphasize the target's attempt to avoid the control that the underlying (initial) landmark exerts over it. It is, most probably, these elements of the verb's semantics – and particularly the speed – that give them the capacity to occasionally describe a change of placement subsequent to the initial change of relation and placement. When a final PP is present, and in accordance with the observations about "tendentiality" (see Introduction and (Aurnague 2011)), a final change of relation is added to this change of placement. So, the reference to a subsequent motion is not a constitutive element of this class of verbs but has to be seen, rather, as a "side effect" of their semantic content.

Table 1. Categories of intransitive verbs of change of relation and placement

Initial intransitive verbs	Final intransitive verbs
Independent initial change of relation: *partir* [] e e' r(t,l) ⋯▷¬r(t,l) ch-plmt + ch-plmt + ch-rel	**Final change of relation with integrated prior motion:** *aller à, se rendre, venir*]⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯] e e' ch-plmt + ¬r(t,l) ⋯▷r(t,l) (+ ch-plmt)
Extended initial change of relation: *s'échapper, s'enfuir* []⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯▷ e ch-plmt e' r(t,l) ⋯▷¬r(t,l) ch-rel + ch-plmt (+ ch-plmt)	**Final change of relation with presupposed prior motion:** *arriver, parvenir*]⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯] e e' / ch-plmt ↲/ ¬r(t,l) ⋯▷r(t,l) + ch-plmt
Double change of relation with initial saliency: *déménager, émigrer* [⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯] e (ch-plmt) e' r(t,l1) ⋯▷¬r(t,l1) + ¬r(t,l2) ⋯▷r(t,l2) + ch-plmt + ch-plmt	**Double change of relation with final saliency:** *immigrer* [⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯] e (ch-plmt) e' r(t,l1) ⋯▷¬r(t,l1) + ¬r(t,l2) ⋯▷r(t,l2) + ch-plmt + ch-plmt
Inclusion/containment-type initial change of relation: *sortir* alternative repres. [] [] e e r(t,l) ⋯▷¬r(t,l) r(t,l) ⋯▷r'(t,l) + ch-plmt + ch-plmt r = incl./cont.	**Inclusion/containment-type final change of relation:** *entrer* alternative repres. [] [] e e ¬r(t,l) ⋯▷r(t,l) r'(t,l) ⋯▷r(t,l) + ch-plmt + ch-plmt r =incl./cont.

Square brackets delimit the semantic content of the verbs; underlining indicates the saliency of the change of relation and placement. Abbreviations: t: target; l: landmark; ch-plmt: change of placement; ch-rel: change of basic locative relation; incl./cont.: inclusion/containment.

A third category of intransitive verbs includes predicates like *aller à* 'to go to' (and, more generally, *aller* + *Prep* 'to go + Prep'), *se rendre* 'to go to' or *venir* 'to come' – as well as more colloquial forms: *s'abouler* 'to come', *s'amener* 'to come along', *rappliquer* 'to come, to turn up', etc. – that are based on a **final change of relation with integrated prior motion**. Indeed, the semantic content of these verbs includes a change of placement followed by a change of relation (and, possibly, of placement) (cf. Table 1). It is, most of the time, the perfective aspect of the tense used (e.g. "passé compose"/perfect) that leads us to assign an initial temporal boundary (and, indirectly, an initial change of locative relation) to the verbal process. Some constructions combining a verb of change of placement (e.g. *courir* 'to run', *ramper* 'to crawl') with a PP and which are likely to denote a change of relation and placement (see Introduction and (Aurnague 2011)) are semantically very close to the verbs of this class. Therefore, this category of motion eventualities is probably the most widespread among the processes distinguished in the classification.

Arriver 'to arrive', *aboutir* 'to end up', *accéder* 'to reach, to get to' and *parvenir* 'to reach, to get to' belong to the same category of verbs, as their semantic content consists in a **final change of relation and placement with presupposed prior motion**. Whereas these predicates refer to a final change of relation (and placement) without denoting a prior change of placement, their semantics nonetheless "presupposes" the existence of such a motion (see the part between slashes with a left-headed arrow in Table 1). This presupposed change of placement explains a well-known aspectual property of these verbs, that is their ability to behave as "achievements" (see the possibility of adding a temporal adverbial headed by *à* 'at') and as "accomplishments" as well (possible addition of an adverbial headed by *en* 'in') (5). This property has, in fact, a spatial counterpart (Aurnague, 2000) since the preposition *par* 'by' can indiscriminately introduce an entity directly connected to the final landmark (and which is thus involved in the final change of relation) or more distant from it and located within the prior trajectory of the target (change of placement) (6).

(5) *Max est arrivé à l'université à 10 heures/en 10 minutes.*
'Max arrived at the university at 10 o'clock/in 10 minutes'

(6) *Les réfugiés sont parvenus en France par l'Aragon/le Portugal.*
'The refugees got to/reached France via Aragon/Portugal'

The remaining four classes (lower half of Table 1) go two by two. **Double changes of relation with initial or final saliency** (e.g. *déménager* 'to move (house)', *émigrer* 'to emigrate'; *immigrer* 'to immigrate') have in common the fact that they involve a kind of "typing" of the landmarks with respect to which the two changes of relation and placement expressed take place (accommodation/residence, country, homeland…). One of these changes of relation (and placement) seems, nevertheless, to be more "salient" than the other, as the morphological properties of these verbs often indicate

(*dé-*, *é-*/*ex-* vs. *im-* prefixes). Finally, **inclusion/containment-type initial or final changes of relation** (e.g. *sortir* 'to go out'; *entrer* 'to go in, to enter', *pénétrer* 'to enter, to penetrate') are the only categories that explicitly refer to the basic locative relation of inclusion/containment (preposition *dans* 'in'). Note that the negation of the locative relation *dans* may be expressed via the prepositional locution *à l'extérieur de* 'at the exterior of, outside', thus opening up the way to an alternative representation consisting of two "positive" pieces of information (cf. Table 1). However, the interior of an entity seems to be cognitively more individualized and salient than its exterior (Aurnague 2011) so that I give priority to the representation of these processes based on the basic locative relation *dans* and its negation (assertion and later negation for initial predicates and the reverse for final ones).

This categorization of intransitive motion verbs (and, more particularly, the four higher classes of Table 1) reveals an important asymmetry/dissymmetry between initial and final processes. This is because initial predicates of change of relation usually do not indicate the existence of a subsequent change of placement in their semantic content, whereas final changes of relation can integrate a prior change of placement or presuppose it.

In the remainder of this work, I will not go deeper into analyzing the spatio-temporal structure of intransitive verbs of strict motion in French. Rather, I will try to show how the schemata brought to light are able to predict the possible "implicit uses" of the verbs under consideration as well as their association with a PP having an opposite polarity.

3. Categories of verbs and the implicit landmark construction

By implicit use of verbs of change of relation and placement I mean those anaphoric constructions of the verbs that do not mention the landmark(s) involved in the motion (neither through a nominal description nor through a pronoun or an adverbial).[4] Without going into details, let me indicate that the approach to anaphoric phenomena taken in this work is a cognitive one in which a mental discourse representation or discourse model is constructed and updated from different sources, among which, the "text"/utterance (written or oral production) and the situational context (e.g. Cornish 1999; Kleiber 1994). Classical definitions of anaphora and deixis (Bühler 1934/1990; Zribi-Hertz 1992) in terms of relations between elements

4. The constructions that associate a motion verb and a direct infinitival clause – and denote a final change of relation and placement – are obviously set aside here (Lamiroy 1983; Aurnague 2011). Indeed, the incorporation of the infinitival clause leads to automatically introducing a final reference entity – whether **expressed or not** – which operates as the landmark of both the motion predicate of the main clause **and** the eventuality of the infinitive: *Max est allé retrouver Luc (à l'université)* 'Max went and joined Luc (at the university)' vs. **Max est allé* (see below).

of the "text" on the one hand, and relations between the text and the situational context on the other hand are not followed here. According to Cornish (1999, 2018), who extends Lyons' (1977) definition, *deixis (in discourse)* consists in shifting the addressee's attention to an element of the universe of discourse (already present in the representation and potentially supplemented via inference, or introduced by the current discourse segment) whereas anaphora refers to an element previously in focus. The deictic/anaphoric distinction thus relies on the nature of the procedure followed in order to identify the appropriate referent and is not restricted to the source of information (context vs. co-text): deixis is able to shift the interlocutor's attention to an element evoked via the previous text (but not focused upon) whereas anaphora can very well refer to a referent introduced and focused via the situational context (so-called "exophors"). These preliminary remarks are only intended to clarify my position on anaphoric phenomena and do not mean that the constructions presented in this section will be systematically analyzed on this basis. The current aim is more general – distinguishing between those verbs that can give rise to an anaphoric construction and those that cannot – and, indeed, several of the examples proposed would need a larger co-text to be provided in order to define the exact nature of the procedure involved in the retrieval of the missing referent.

Moreover, let me point out that in the spatial domain explored here, I will mostly use the term *"(spatial) deixis"* to characterize those motions which impose the presence of one of the speech participants near the landmark (or, at least, the existence of a particular link between one of the participants and the landmark). The relation between spatial deixis and the more general discourse deixis (as defined above) is obvious because both procedures consist in switching the addressee's attention to a specific referent (via spatial pointing and proximity in the former case). While spatial deixis seems to be at the root of discourse deixis, Cornish (1999) and Lyons (1977) notice that deixis as a whole is more fundamental than anaphora and that the former precedes the latter in diachrony as well as in language acquisition (cf. Hickmann 2003; Tanz 1980).

As we saw (Section 2), independent and extended initial changes of relation (e.g. *partir* 'to go (away), to leave', *s'échapper* 'to escape', *s'enfuir* 'to run away') have a semantic content which is centered on the initial change of relation (and placement) they introduce. This property – centering of the process on the change of relation and, therefore, on the landmark – makes it possible for these verbs to give rise to implicit uses (7–10), provided that an accurate landmark, with respect to which the target can be located, is present in the discourse model and that attention is focused on it. As pointed out above, while this landmark can already be present and focused in the representation (anaphora), its focusing and sometimes introduction can be the outcome of the current discourse segment (deixis; when focusing and introduction take place together, the source of the intended referent is usually the situational context). However, I will not systematically make these distinctions in

the following discussion and will simply consider that the landmark is available or made available in the discourse representation.

(7) [Pedro, Don Christoval, Les Officiers, entrant] *le roi est parti ?*
(H. de Montherlant, *La Reine morte*, 1942)[5]
'[Pedro, Don Christoval, The Officers, entering] Has the king gone away?'

(8) *Il est parti une nuit… en coupant simplement à la cisaille les deux rangs de barbelés de l'enceinte de son oflag.* (R. Abellio, *Heureux les pacifiques*, 1946)
'He left one night… by simply clipping through the two rows of barbed wire of the fence of his oflag'

(9) *Il s'est échappé !* (P. Claudel, *Les Euménides trad. d'Eschyle*, 1920)
'He has escaped!'

(10) *Au deuxième [coup de revolver], il y a eu des cris, un blessé, et tout le monde s'est enfui.* (A. Camus, *La Peste*, 1947)
'At the second [gun shot], there were cries, an injured person, and everybody ran away'

Unlike independent and extended initial changes of relation, the verbs referring to a final change of relation with integrated prior motion (e.g. *aller* + *Prep* 'to go + Prep', *se rendre* 'to go to') are not centered on the (final) change of relation they introduce: as previously indicated, their semantic content includes a change of placement preceding the final change of relation. This event structure has immediate consequences because the landmark with respect to which the final change of relation will take place is often unavailable during the prior change of placement. More precisely, if the situational context (11) or the co-text[6] (13) make it possible to situate a change of placement within an encompassing spatial environment, the final landmark of

5. All the attested examples in this study come from the Frantext textual base. More specifically, the results are grounded in the analysis of over 3400 spatial and non-spatial occurrences of the following verbs in a corpus drawn up from Frantext (main shared period: 1880–1950): *aller* (+ *Prep*) 'to go (+ Prep)', *arriver* 'to arrive', *s'échapper* 'to escape', *s'enfuir* 'to run away', *entrer* 'to go in, to enter', *partir* 'to go (away), to leave', *sortir* 'to go out', *venir* 'to come' (+ *(s')avancer* 'to advance, to move forward', *descendre* 'to go down', *monter* 'to go up', *reculer* 'to (move) back'). See Note 7 for the details concerning the verb *aller* + *Prep*. Additional investigations were carried out for *aboutir* 'to end up', *accéder* 'to reach, to get to' and *parvenir* 'to reach, to get to'. Non-spatial occurrences being set aside, the analysis obviously focused on the spatial uses of the verbs.

6. In the case of "trajectory descriptions" or motion narrations, (Asher et al. 1995) shows how the last location introduced in a discourse can be used to situate a following eventuality (or a part of it).

The unavailable character of the final landmark in the universe of discourse obviously correlates with the fact that the outcome of the whole motion process is often not known during the prior change of placement. The final issue has to be anticipated on the basis of the target's intentions (cf. Vandeloise's (1987) "principle of anticipation") or described a posteriori, after the final change of relation has taken place.

the whole motion eventuality is usually not focused (as a **goal** or **final** landmark) and, sometimes, not present in the universe of discourse either during this phase of the process. Thus, the final landmark has to be explicitly identified in the utterance (12, 14).[7]

(11) *Max marche d'un pas décidé (sur le boulevard).*
'Max is walking at a steady pace (on the boulevard)'

(12) *Max va à la mairie d'un pas décidé.*
'Max is going to the city hall at a steady pace'

(13) *Aussitôt arrivé sur le chemin, Max a couru à grandes enjambées.*
'As soon as he reached the path, Max broke into a swift run'

(14) *Aussitôt arrivé sur le chemin, Max s'est rendu au village à grandes enjambées.*[8]
'As soon as he reached the path, Max strode quickly on to the village'

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7. Although it follows from the spatio-temporal structure of the verbs, the need for overtly mentioning the landmark is probably encoded in their very constructional properties. In French, this syntactic-semantic rule seems to apply uniformly and the final landmark thus has to be expressed (via a clitic pronoun) even when it is present and highlighted in the discourse: *C'est une très belle ville. Max *est allé/y est allé.* 'It is a very nice city. Max went/went there'; *Demain le musée sera ouvert. Nous pourrions *aller/y aller* 'Tomorrow the museum will be open. We could go/go there'. The same constraint holds for constructions with grammatical ellipsis: *Max est allé à l'université. Luc *est allé/y est allé aussi* 'Max went to the university. Luc went/went there too'.

The analysis of the verb *aller* + *Prep* in a corpus drawn up from the 2007–2008 categorized version of the textual base Frantext ("passé composé"/perfect; third person singular; periods: 1880–1930 (142 spatial occurrences examined) and 1937–1950 (127 spatial occurrences)) showed the absolute lack of implicit uses of this marker denoting a final change of relation and placement (apart from direct infinitival constructions (Aurnague 2011); see Note 4). Sabio (2008) reports similar results from tracking spatial clitics in both **oral** and **written** corpora of contemporary French. The same observation could surely be made for the verb *se rendre* in its motion meaning (**Max s'est rendu* 'Max went (to)'). The form *être rendu* 'to have arrived' is not comparable to the constructions studied because it involves an adjective derived from the verb (*rendu*) that highlights the final state of the motion.

In languages with a weaker syntactic-semantic rule (e.g. Basque, English, Italian, Spanish), the salient final landmark can sometimes be omitted from the utterance (typical utterances include imperatives, future or modal forms, landmarks associated with an activity…). In many cases, however, the explicit mention of this entity seems to be preferred or even required, in spite of its possible saliency.

8. In this study, I consider intransitive verbs of change of relation and placement and (usually) not the constructions obtained when combining a predicate of change of placement with a "final" spatial PP (e.g., *Max a couru* 'Max ran' vs. *Max a couru au village* 'Max ran to the village'). Some directional verbs of change of placement can give rise to implicit landmark descriptions denoting changes of relation and placement (*Max est monté/descendu* 'Maw went up/down') but this is due to the frequent presence, in the situational or utterance context, of landmarks that "limit" the corresponding motions (Aurnague 2011).

However, some changes of relation with integrated prior motion can appear in implicit landmark constructions: the corresponding predicates are characterized by the fact that the landmark with respect to which the final change of relation is evaluated is already known during the prior change of placement. A first group of dynamic descriptions – by far the largest – includes motions that are contemplated from the landmark introduced by the text/utterance or the situational context and that constitutes their (possible) endpoint. These descriptions involve the verb *venir* 'to come' (15–16) as well as the more colloquial forms *s'abouler* 'to come', *s'amener* 'to come along' or *rappliquer* 'to come, to turn up'. As Fillmore (1975) very effectively illustrated with the verb *come* (see also (Ricca 1992) for data on Italian), the most common uses of these predicates require the speaker and/or the interlocutor to be located near the final landmark of the motion at speech time or at event time (alternatively the landmark can simply be related to them: e.g. home, workplace). Therefore they clearly impose a *spatial deixis* constraint (Aurnague 2015). Indeed, this deictic behavior covers broader situations because it may sometimes only consist in using the landmark present in the universe of discourse as a "perspective point" or "point of view" from which the motion is contemplated, without the participants (or one of them) being actually located near this landmark at some point in time – for further discussions on motion and spatial deixis across languages, see the first part of the volume.

(15) *Djala, qui est venu hier* ? (P. Louys, *Aphrodite*, 1896)
'Djala, who came yesterday?'

(16) *Aussi lorsque est venu, le lendemain matin, ce drôle de type à barbiche que le père a d'abord reçu si mal…* (G. Bernanos, *Monsieur Ouine*, 1943)
'Well, when the next morning, that peculiar guy with a goatee beard came who the father at first received so badly…'

Besides adopting a perspective centered on the final landmark (spatial deixis, perspective point), a second situation paves the way for the implicit use of final changes of relation with integrated prior motion: the final landmark is, here again, already known during the prior motion but this information derives from world knowledge often combined with situational data (and exploited via the verb's semantics) rather than from the perspective from which the motion is viewed.[9] In French, this case is

9. More generally, note that in the absence of an identifiable final landmark, world knowledge, clues and inferences sometimes make it possible to use a description involving a generic landmark (possibly captured via the activity or function that characterizes it): *Les ouvriers rentrent chez eux* 'Workers are returning home'; *Le bateau rentre au port* 'The boat is going back to the port'; *Les ouvriers se rendent au travail* 'Workers are going to work'; *Les vacanciers vont à la plage* 'Holiday-makers are going to the beach'.

illustrated by the verb *rentrer* 'to come/go back, to come/go (back) home, to return (home)' which implies that the target gets back to her/his habitual location (cf. the *r(e)-* prefix). (17), for instance, is likely to be uttered by somebody on seeing Max on his (habitual) way back home.

(17) *Tiens, c'est Max. C'est à cette heure-ci qu'il rentre !*
'Ah, there's Max. So this is the time he returns home!'

As suggested elsewhere (Aurnague 2011), final changes of relation with presupposed prior motion (e.g. *arriver* 'to arrive', *aboutir* 'to end up', *accéder* 'to reach, to get to' and *parvenir* 'to reach, to get to') occupy an intermediate position between independent or extended initial changes of relation and final changes of relation with integrated prior motion: although they are centered on the final change of relation (and placement) they denote, they indicate, in their very semantics, the existence of a change of placement preceding this change of relation (cf. Section 2). This ambivalent status can be seen at the aspectual level (internal aspect, Aktionsart: Smith 1991; Vendler 1957) – though achievements, these predicates can sometimes behave as accomplishments –, but it also has spatial repercussions – the landmark introduced by *par* 'by' can be directly connected to the final landmark or located within the prior trajectory of the target. In the same way as the initial processes previously examined, the centering on the final change of relation and placement (and on the corresponding landmark) theoretically allows these verbs to appear in implicit constructions as soon as the final landmark is available or made available in the discourse:

(18) *Le jour où M Murchison est arrivé, il a confié au coffre-fort de l'hôtel une grosse somme, une… très grosse somme.* (J. Gracq, *Un beau ténébreux*, 1945)
'The day Mr Murchison arrived, he entrusted to the hotel's safe a large amount, a… very large amount of money'

(19) *On est arrivé.* (M. Aymé, *Le Vin de Paris*, 1947)
'We have arrived'

But, here again, the fact that these verbs include, in their semantic content, a mention of a change of placement prior to the final change of relation (and placement) denoted, paves the way for a dual type of behavior: if the prior motion acquires some importance in the process being described, one can expect the use of an implicit construction not to be possible (such a phenomenon may partly parallel the functioning of final changes of relation with integrated prior motion; cf. *supra*). This is, in my view, what occurs with the predicates *aboutir, accéder* and *parvenir*, to which we return below (Section 4).

The four remaining classes of verbs of change of relation and placement all admit implicit landmark constructions, although for different reasons. Inclusion/

containment-type initial and final changes of relation (e.g. *sortir* 'to go out', *entrer* 'to go in, to enter', *pénétrer* 'to enter, to penetrate') have a semantic content markedly centered on the change of relation and placement (and the associated landmark) and, as the verbs displaying this property that we have already seen, they can be used without resorting to any spatial PP whenever the landmark is retrievable from the discourse representation. Of course, the spatial configuration has to match the basic locative relation conveyed by the verb:

(20) *L'homme est sorti, et lentement s'est éloigné.* (M. Genevoix, *Ceux de 14*, 1950)
'The man went out, and slowly moved away'

(21) *Un garçon se précipite, affolé, nous dire qu'en passant sous la fenêtre d'Ortègue, il a entendu des gémissements, qu'il est entré, qu'il a trouvé le Professeur sans connaissance.* (P. Bourget, *Le Sens de la mort*, 1915)
'A boy rushes over, panic-stricken, to tell us that, while passing under Ortègue's window, he heard groans, that he went in and found the Professor unconscious'

Double changes of relation with initial or final saliency (e.g. *déménager* 'to move (house)', *émigrer* 'to emigrate'; *immigrer* 'immigrate') can also appear in utterances in which the verb does not co-occur with a spatial PP. However, the reasons for such a behavior are different from those brought out up to now and probably rely on the "typing" of the landmarks entailed by these predicates (see Section 2 and (Aurnague 2011)). An important outcome of this typing is that double changes of relation and placement do not need a referential anchoring (with respect to well identified landmarks) and occur very easily in plural or generic descriptions:

(22) *Max a déménagé (de nombreuses fois dans sa vie).*
'Max has moved house (many times in his life)'

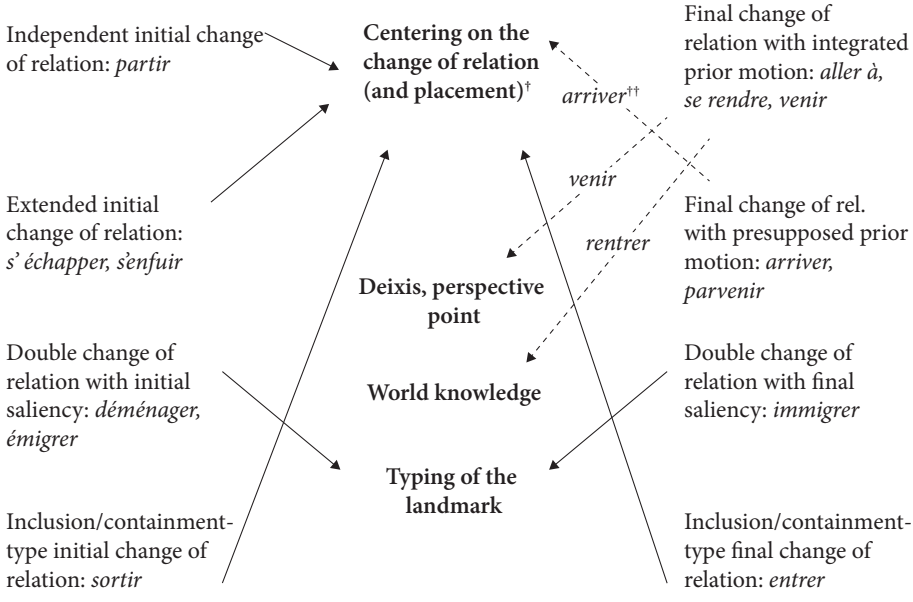
(23) *Celui qui immigre découvre un nouveau monde.*
'Anybody who immigrates discovers a new world'

4. Predicting implicit uses: Main conditions and beyond

As summarized in Figure 1, the spatial or spatio-temporal categorization of intransitive verbs of change of relation and placement I have proposed (see Section 2) allows to predict, to a large extent, the possibility of using these verbs in implicit constructions (with no mention of the spatial landmark(s) underlying the process). Thus, we observed that the landmark with respect to which a change of relation (and placement) is evaluated can, in principle, be omitted from the dynamic description whenever the spatio-temporal schema characterizing the process is **centered on this change**: this is the case with independent and extended initial changes of relation

(e.g. *partir* 'to go (away), to leave', *s'échapper* 'to escape', *s'enfuir* 'to run away') and with inclusion/containment-type initial or final changes of relation (e.g. *sortir* 'to go out', *entrer* 'to go in, to enter', *pénétrer* 'to enter, to penetrate'). These implicit uses need a landmark to be available in the discourse representation and attention to be turned on it (the landmark is already focused in the representation – anaphora – or a shift in attention takes place within the current discourse segment – deixis –). Obviously, the (initial or final) relation between the target and the landmark must fit in with the basic locative relation underlying the predicate's semantics. When the verb's semantics includes a change of placement separated from the change of relation – and which, usually, precedes the latter (see above): final changes of relation with integrated prior motion –, the (final) landmark associated with the change of relation is often unavailable in the course of the process and, in particular, during the prior change of placement (it is not focused as a final landmark and even not present in the universe of discourse). Therefore, it has to appear explicitly in the description and this is reflected in a categorical syntactic-semantic rule of French (see Note 7). However, final changes of relation with integrated prior motion give rise to implicit landmark constructions in two cases. The first case corresponds to **motions contemplated from the landmark** that underlies the change of relation (this landmark operates as a "perspective point"), the corresponding predicates having a clearly *spatial deictic* content (e.g. *venir* 'to come', *s'abouler* 'to come', *s'amener* 'to come along'). A second possibility – far less frequent, at least in French – consists in inferring the final landmark from **world knowledge** and related situational knowledge that the verb exploits (e.g. *rentrer* 'to come/go back, to come/go (back) home, to return (home)'). A final factor licensing the implicit use of changes of relation and placement is the semantic **typing** of the landmark but, as suggested above, this is a somewhat different case.

As pointed out above, final changes of relation with presupposed prior motion show a contrasting behavior with regard to their co-occurrence with a spatial PP, a behavior that parallels the ambivalent character already seen when examining their internal aspect or their combination with a *par*-headed PP (see Section 2). The centering on the final change of relation (and placement) theoretically allows these verbs to occur in implicit landmark constructions, as we observed for *arriver* 'to arrive'. However, *aboutir* 'to end up', *accéder* 'to reach, to get to' or *parvenir* 'to reach, to get to' do not license such constructions. My explanation for these disparities is that, while they all denote a final change of relation, these predicates can give variable importance or "saliency" to the prior motion that is presupposed in their semantics. This saliency depends on specific properties that I illustrate briefly with the verbs *parvenir* and *aboutir*. The semantics of *parvenir* seems often to involve the idea of difficulty the target comes up or may come up against during the prior change of placement – difficulty that can simply lie in the distance to be covered



†Dotted arrows indicate that only some verbs within the category have the intended property.
††Prior motion not salient.

Figure 1. Categories of verbs and constraints on implicit constructions

(24).[10] Besides the difficulty in completing the motion process, the verb *parvenir* very often underlines the intention of the target to reach a determined landmark or, at least, its will to make headway in a given direction (the furthest possible), these two facets – difficulty and intention – being probably related (as the target tries to overcome the difficulties/obstacles met and to carry on its way). Thus, the entity introduced by the verb's complement corresponds, most of the time, to the final landmark that the target wants to reach (24), to an intermediate entity on the way towards this landmark (25) or, even, to a landmark located in the direction along which the target is progressing.

(24) *Le 9 octobre, après une marche longue et difficile, il est parvenu à Graffenthal avec la division Suchet et sa cavalerie…*
(Maréchal Foch, *Des principes de la guerre*, 1911)
'On October 9th, after a long and difficult march, he reached Graffenthal with the Suchet division and its cavalry…'

10. This property relates *parvenir* to *accéder* 'to reach, to get to' which also seems to underline the potential difficulties and obstacles that may arise when attempting to get to the landmark.

(25) *…parvenu à un croisement de chemins, Meaulnes, dans sa hâte à regagner le pauvre logis, suivit sans réfléchir un sentier qui paraissait directement y conduire.* (Alain-Fournier, *Le Grand Meaulnes*, 1913)
'…having reached a crossroads, Meaulnes, in a hurry to get back to the poor abode, followed, without realizing it, a path that seemed to lead there directly'

As far as *aboutir* is concerned, this verb associates the notion of "guidance" or "guided trajectory" (Aurnague 2000; Stosic 2002, 2007) with the complementary (and, probably, secondary) idea that the moving target gets to the landmark identified by the final PP without this change of relation being intentional:

(26) *…il n'est certes pas sans signification que, chaque fois que je suis désemparé, j'aboutisse dans ce quartier… comme le navire sans gouvernail qui glisse irrésistiblement vers le maelstrom…* (R. Vailland, *Drôle de jeu*, 1945)
'…it is certainly not without significance that, every time I am distraught, I end up in this area… like the ship without a helm that is irresistibly gliding along towards the maelstrom…'

(27) *Nous perdons une demi-heure dans un sentier qui ne mène nulle part sinon à des routes et enfin nous aboutissons dans une espèce de carrière parsemée çà et là de vieilles boîtes de conserve.* (R. Fallet, *Carnets de jeunesse*, 1947)
'We waste half an hour on a path that leads nowhere except to roads and finally we end up in a kind of quarry scattered here and there with tin cans'

Arriver differs from both *parvenir* and *aboutir* as it does not incorporate in its semantic content any constraint on the difficulty in achieving the motion process, the possible guidance of the trajectory or the target's will (or lack of will) to reach a landmark (or to make headway in a given direction): in a sense this verb is neutral with respect to these properties. Although *arriver* can sometimes appear in descriptions that include markers that underline the difficulty and intentionality of the motion (possible substitution for *parvenir*) vs. guidance and non-intentionality (possible substitution for *aboutir*), most of its contexts of use do not bring such notions into play.

All of these properties – difficulties/obstacles, guidance, (lack of) intention to reach the landmark – apply to the prior change of placement presupposed (or, at least, involve it somehow or other) and give it a particular saliency in the verb's semantics. In my view, this is the main reason why *aboutir, accéder* and *parvenir*, unlike *arriver*, do not occur in implicit constructions and require their landmarks to be mentioned. The saliency of the change of placement somehow brings these verbs closer to final changes of relation with integrated prior motion which, as we saw, only appear in implicit landmark constructions in a restricted number of cases (deictic content, recourse to world knowledge). However, the role of prior motion in the rejection of

implicit uses is probably different here (it is not really a matter of unavailability of the final landmark during the prior motion) and, for some of the verbs, it is likely to relate to differences in degree of semantic transitivity (from this point of view *accéder* and *parvenir* would be closer to *atteindre* 'to reach' than *arriver*; see (Hopper and Thompson 1980) and (Sarda 1999)).

5. Verbs and PPs with opposite polarities: The role of implicitness

The picture painted by implicit uses of intransitive verbs of change of relation and placement displays a strong asymmetry/dissymmetry between initial and final predicates. One can thus notice that all the classes of initial verbs examined exhibit semantic properties (centering on the initial change of relation and placement or typing of the landmark) that license implicit landmark constructions. The situation is different with final motions as they do not systematically admit this kind of use: this is the case with final changes of relation with integrated prior motion (when the final landmark is neither used as a perspective point nor drawn from world knowledge: *aller à, se rendre* 'to go to') and with final changes of relation with presupposed prior motion (when the presupposed change of placement is "salient": *aboutir* 'to end up', *accéder, parvenir* 'to reach, to get to'). The proportion of final processes that make the expression of the landmark compulsory is even higher if one takes into account constructions associating a verb of change of placement and a final PP (cf. Introduction), which usually need this element to be present in the sentence (with the exception of directional verbs: see Note 8).

As far as I know, the asymmetry so shown by implicit uses has been very little noticed in the literature and it is all the more interesting since it correlates, to a large extent, with another syntactic-semantic property (partly identified by Boons (1987)), that is, the possibility for a verb of a given polarity to combine with a PP having an opposite polarity. In this way, the initial verbs denoting an independent or an extended change of relation (and placement) – which, as we saw, admit implicit uses – easily combine with a final PP (28–31).

(28) *m le professeur Don Pedro Henriquez, accompagné de plusieurs savants médecins, est parti pour la province de San-Paulo…*
(G. de Maupassant, *Contes et Nouvelles*, 1886)
'Professor Don Pedro Henriquez, accompanied by several learned doctors, left for the province of San-Paulo…'

(29) *notre cher président du conseil, aussitôt après sa chute, est parti à la Sierra avec un fusil…* (A. Malraux, *L'Espoir*, 1937)
'our dear prime minister, straight after his fall, left for the Sierra with a gun…'

(30) *Mistigris s'est échappé dans les mollets de papa.*
(J. Audiberti, *Théâtre*, t. 1, 1948)
'Mistigris escaped into dad's calves'

(31) *Le traître, protégé de l'état-major, s'est enfui à Londres…*
(G. Clemenceau, *Vers la réparation*, 1899)
'The traitor, protected by the staff, ran away to London…'

The same applies to double changes of relation with initial saliency and to inclusion/containment-type initial changes of relation[11] (32–33).

(32) *Max a déménagé à Paris.*
'Max moved house to Paris'

(33) *il est sorti tout seul dans la plaine…* (H. Barbusse, *Le Feu*, 1916)
'he went out alone in(to) the plain…'

The integration of a final predicate and an initial PP into the same dynamic description is not systematic and again seems to be subject to the conditions already highlighted for the implicit uses of the verbs (Sections 3 and 4). This observation holds for final changes of relation with integrated prior motion whose association with an initial PP involves deixis (e.g. *venir* 'to come', *s'abouler* 'to come', *s'amener* 'to come along') or world knowledge (e.g. *rentrer* 'to come/go back, to come/go (back) home, to return (home)') (34–36). It also applies to final changes of relation with presupposed prior motion since the (prior) change of placement to which the verb indirectly refers does not have to be salient ((37): *arriver* 'to arrive').

(34) *il est venu de Rennes avec moi.* (Villiers de L'Isle-Adam, *Contes cruels*, 1883)
'he came from Rennes with me'

(35) *Ouine est venu d'on ne sait où, un soir.* (G. Bernanos, *Monsieur Ouine*, 1943)
'Ouine came from goodness knows where, one evening'

(36) *Tiens, c'est Max. Il doit rentrer de l'usine.*
'Ah, there's Max. He must be returning home from the factory'

(37) *Il est arrivé ce matin de Toulouse où il a échappé de justesse à la gestapo.*
(R. Vailland, *Drôle de jeu*, 1945)
'He arrived this morning from Toulouse where he narrowly escaped the gestapo'

When these semantic constraints are not satisfied – deixis and world knowledge are not present in the semantic content: *aller* + *Prep* 'to go + Prep', *se rendre* 'to go to'; presupposed prior motion is salient: *aboutir* 'to end up', *accéder, parvenir* 'to reach, to get to' –, final changes of relation cannot combine with an initial PP (38–41).

11. Except when their semantics stresses the affectedness of the target and/or landmark: e.g. *s'extraire* 'to get out of, to extricate o.s.', *se dégager* 'to extricate o.s.'.

(38) **Max est allé de la cuisine*.
'Max went from the kitchen'

(39) **Max s'est rendu de Rennes*.
'Max went from Rennes'

(40) *Max a abouti du carrefour.
'Max ended up from the crossroads'

(41) ??*Max est parvenu de Toulouse.[12]
'Max got from Toulouse'

Like symmetrical initial predicates (see above), double changes of relation with final saliency can combine with an initial PP (e.g., *Max a immigré du Portugal* 'Max immigrated from Portugal'). Finally, inclusion/containment-type final changes of relation constitute the only exception to the parallel claimed to hold between implicit uses of intransitive motion verbs and their association with an "opposite PP" in terms of polarity (e.g., ??**Max est entré de la cour* 'Max went in from the yard'). We are faced here with a specific behavior that needs to be tackled through a comparison with the opposite predicate *sortir* 'to go out' on the one hand, and with final changes of relation and placement licensing implicit constructions, on the other.[13] I leave this question aside in this chapter.

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12. A few cases where *parvenir* appears with an initial PP were found in Frantext, but these constructions seem to need very specific constraints to be satisfied. Thus, the landmark entity is almost systematically a human being (or a group of human beings) and, conversely, the target has to be non-animate. The latter entity is a physical phenomenon perceived by the human landmark (e.g. sound, smell) or an object received by this landmark (some kind of transporting or forwarding is usually involved): *Par intervalles, une voix parvenait de là-bas…* 'At intervals, a voice could be heard from there…' (M. Genevoix, *Raboliot*, 1925); *Le 31 juillet, en effet, vers 18 heures, parvient de Paris l'ordre de "faire partir les troupes de couverture"…* 'On July 31th, indeed, about 6 p.m., the order to "make the covering troops leave" reached us…' (Maréchal Foch, *Mémoire pour guerre 1914–1918*, 1929); *Il y a un bruit étouffé de machines à écrire et de voix qui parvient de l'étage supérieur…* 'There is a muffled sound of typewriters and voices coming from the upper floor…' (J. Joffo, *Un sac de billes*, 1973). Moreover, in several of the examples found, the tense used has an imperfective aspect (e.g. "imparfait"/imperfect).

13. On the basis of this dual comparison, my intuition is that this peculiar behavior of *entrer* follows from two main factors: the fact that this verb (like *sortir*) is especially centered on the landmark it introduces and, without being deictic, often implies a certain closeness to this entity (recall, among other things, that the underlying basic locative relation is *dans* 'in' rather than *à* 'at'); the importance of certain "post-states" in relation to "pre-states". Although I will not go back to the compared functioning of *entrer* and *sortir*, the difference thus pointed out constitutes a further illustration of the asymmetry between initial and final changes of relation and placement (see Section 6 and (Aurnague 2015)).

On the whole, the attested data collected in this work show a close correlation between the strict motion verbs licensing the association with a spatial PP of opposite polarity (to the verb) and the predicates that can be used without the landmark underlying their meaning being explicitly mentioned. This correlation is not really surprising and indicates that the change of relation and placement expressed in the verb's semantic content has to be implied (in spite of the landmark not being mentioned) for a PP with opposite polarity to be added.

6. Conclusion: Implicit landmarks, opposite polarities and asymmetry of motion

Starting from the categorization of predicates of change of relation and placement, this chapter has provided the opportunity to tackle two important questions concerning the association between strict motion verbs and PPs: Under which conditions can the landmark underlying a verb of change of relation and placement remain implicit or unexpressed? In which cases is it possible for a motion verb to appear with a PP having an opposite polarity?

The first question has virtually never been dealt with as such in the literature (at least to my knowledge) and the obligatory or optional character of the indirect complement of a strict motion predicate is most often considered as an idiosyncratic phenomenon.[14] Without completely exhausting the subject, I tried to show that the possibility of such uses is not arbitrary and, to a large extent, depends on the spatio-temporal structure of motion verbs (centering or not on the change of relation and placement) and on several other parameters of their semantics (Sections 3 and 4): motion contemplated from the landmark, world knowledge (and situational information), typing of the landmark.

With regard to the second question, and with only very few exceptions, the possibility of combining a motion verb and a spatial PP with opposite polarities turned out to be closely related to the existence of an implicit use of the verb (Section 5). Thus, it seems that we have to be able to imply the change of relation and placement with respect to the implicit landmark (underlying the verb's semantics), for an opposite spatial PP to be added.

The constructions examined in this work reveal a strong asymmetry/dissymmetry between initial and final changes of relation and placement in French. Whereas all the initial verbs analyzed enter into implicit landmark constructions, only some

14. For a recent survey of the lexical solutions put forward for explaining the implicitation of **direct** (indefinite) objects of verbal predicates, see (Bourmayan 2014). The author argues for an entirely pragmatic account. See also (Larjavaara 2000).

of the final verbs license such a use. Moreover, whereas every initial predicate can co-occur with a final PP, not all final verbs may combine with an initial PP. Cases of typing aside, the asymmetry revealed by these constructions is largely due to the fact that initial processes are all centered on the change of relation and placement they introduce – their semantic content does not include any subsequent motion (see Table 1) – contrary to final verbs which, very often, integrate or presuppose a change of placement preceding the final change of relation (and placement).

In (Aurnague 2015), I mention several other asymmetries/dissymmetries between initial and final motion processes (Ikegami, 1987; Lakusta & Landau, 2005; Regier & Zheng, 2007), which show up through the analysis of dynamic verbs and prepositions: deictic constraints on perspective point (initial vs. final), verbs and constructions denoting an initial vs. final change of relation and placement, range of prepositional elements capable of expressing the different polarities of strict motion events and so forth. While most of the oppositions brought to light seem again to depend on the contrasts between the spatio-temporal (inner) arrangement of initial and final motion predicates, I maintain that the source of the asymmetries displayed by dynamic spatial processes must to be found in the very structure of events in language (Kamp and Reyle 1993; Moens and Steedman 1988; Smith 1991).

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CHAPTER 7

Source–Goal asymmetry in Standard Chinese

A comparative study of spontaneous and caused motion events

Jin-Ke Song
Laboratoire Dynamique Du Langage / Université Lumière Lyon 2

Source and Goal, which represent two phases of Path of motion (the starting and the ending points respectively), have been largely studied as a case of linguistic asymmetry. Previous studies have demonstrated that speakers tend to express Goals more overtly than Sources when describing a motion event. This chapter aims to investigate the Source-Goal asymmetry in Standard Chinese by exploring the expression of spontaneous and caused motion events in data collected with the help of visual stimuli tools. My findings reveal a Source-Goal asymmetry in motion encoding in both types of events. Furthermore, different aspects of asymmetry that have manifested in Standard Chinese confirm the previous asymmetrical complexity found within individual languages and across languages.

Keywords: crosslinguistic, ending point, phases of path of motion, starting point, visual stimuli tools

1. Introduction

The present study explores the linguistic encoding of Path and its spatial portions such as Source, Medium, and Goal in motion events in Standard Chinese.[1] Two event types, spontaneous motion, and caused motion are distinguished. A typical spontaneous motion usually refers to an event in which an (in)animate entity (the Figure) moves by itself with respect to a reference object (the Ground) (Talmy 1985, 2000). This results in a change of location, such as *Mary walked into the bush*. or *The*

1. The terminology, Source, Medium, and Goal, used in this chapter not only refers to the noun phrases expressing the initial, the intermediate, and the final Grounds, but also includes verbal, adverbal, and adnominal expressions that indicate Source-oriented, Medium-oriented and Goal-oriented Paths. I use the term Medium following Slobin (2004); the same notion is expressed in other terms, such as Route by Jackendoff (1983, 1991).

https://doi.org/10.1075/hcp.72.07son

fruit fell from the tree. A caused motion event typically implies an Agent (usually animate) who changes the location of an entity (the Figure) with respect to another entity (the Ground), such as *John put the cup on the table*. Enlightened by previous research (Arslangul 2007; Chen and Guo 2009; Hendriks et al. 2009; Ji et al. 2011; Chen 2012) and based on my data collected from native speakers of Standard Chinese, the main objectives of this study are: (a) to investigate how speakers of Standard Chinese express different dimensions (e.g. simple Path, complex Path) of spontaneous and caused motion events using different morphosyntactic resources, and (b) to examine several asymmetrical cases in the expression of Source and Goal (see Ikegami 1979, 1987; Bourdin 1997; Stefanowitsch and Rohde 2004; Lakusta and Landau 2005; Regier and Zheng 2007; Ishibashi 2010; Kopecka and Ishibashi 2011; Aurnague this volume, Guse this volume).[2]

This chapter is structured as follows. Section 2 presents the morphosyntactic resources available in Standard Chinese for motion encoding, including verbal, adverbal, and adnominal encoding. Section 3 introduces the methodology, including the two sets of visual stimuli *Trajectoire* (Ishibashi et al. 2006) and *Put and Take* (Bowerman et al. 2004) for data collection, the speakers' information and the selection of target events for data analyses. Section 4 investigates how speakers of Standard Chinese describe Source and Goal information in spontaneous and caused motion events using different strategies. Section 5 describes three asymmetrical cases in Source and Goal expressions. Section 6 draws some conclusions.

2. Morphosyntactic resources available in Standard Chinese for Path encoding

When describing a motion event, languages vary in the way they encode Path. According to Talmy's (1985, 2000) typological classification, some language families or languages (e.g. Romance, Semitic, Japanese, Turkish, Tamil, Polynesian, etc.) lexicalize Path in a verb (e.g. *entrar* 'move in' in Spanish) and these languages are classified as "verb-framed languages" (henceforth V-languages). Other language families or languages (e.g. non-Romance Indo-European languages, Chinese, etc.) encode Path information in a satellite (e.g. the English particle *out* in 'run *out*') and they are classified as "satellite-framed languages" (henceforth S-languages).

As mentioned in Talmy (1985, 2000), he categorizes Chinese as an S-language. The satellite in Chinese refers to the verb complements, also called 'resultative complements'. It is the second element of a verb compound, such as 出 *-chu* 'out' in 走

2. Simple Path includes only one portion of the Path, (i.e. either Source, or Medium, or Goal) whereas complex Path comprises two or three spatial portions of the Path.

出 *zǒu-chu* 'walk out'. However, Slobin (2004) proposes that Chinese should be categorized as an "equipollently-framed language" (henceforth E-languages) in which both Manner and Path are encoded by a complex verb (e.g. 飞出 *fēi chū* 'fly out') (see also Chen and Guo 2009). Other scholars, such as Lamarre (2007, 2008), argue that it is better to treat Standard Chinese as a 'split' type in which both strategies (satellite-framing and verb-framing) can be used in the expression of a certain type of event (i.e. spontaneous motion event).[3] Besides, historical evidence also shows that Chinese has been undergoing a typological shift changing from a V-language to an S-language, in terms of both morphosyntactic properties and language use (Li 1997; Shi and Wu 2014). In this chapter, I follow the standpoint that Standard Chinese should be better considered as a split-pattern language.

In this section, I discuss the morphosyntactic resources available in Standard Chinese to express the Path information following Wälchli's (2001) classification. According to the locus/loci in which Path is encoded, the author proposes a typology of displacement encoding. He distinguishes three main types: "(V) verbal encoding (i.e. by the verb stem), (AV) adverbal encoding (i.e. by verb affixes or verb particles), and (AN) adnominal encoding (i.e. by prepositions, postpositions or case marking)" (Wälchli 2001: 301; see also Berthele 2004; Lamarre 2008).[4]

2.1 Verbal encoding

The Source and Goal information can be expressed by a Path verb followed by a Ground that is usually a noun phrase indicating the location (henceforth NPloc), such as 进 *jìn* 'enter' followed by 屋 *wū* 'room' in the expression of Goal-oriented Path in Example (1), and 出 *chū* 'exit' followed by 厨房 *chúfáng* 'kitchen' in the expression of Source-oriented Path in Example (2).

(1) 快进屋!
Kuài jìn wū!
quick enter room
'Enter the room quickly!'

3. Besides V-languages and S-languages, Talmy (2000: 64) also mentions a split (or complementary) system of conflation in which "a language can characteristically employ one conflation type for one type of Motion event, and characteristically employ a different conflation type for another type of Motion event".

4. Wälchli (2001) follows the semantic distinction between movement (*mouvement*) and displacement (*déplacement*) made by Tesnière (1959). In general, verbs expressing movement and displacement correspond to Manner and Path verbs respectively.

(2) 他出了厨房。
Tā chū-le chúfáng.
3SG exit-PFV kitchen
'He exited the kitchen.'

2.2 Adverbal encoding

The Source and Goal information can be expressed by a satellite (hereafter SAT).[5] Table 1 illustrates an inventory of satellites (non-deictic satellites and deictic satellites) in Standard Chinese that can encode Path information.

Table 1. Satellites encoding Path

Satellite		Directional meaning	Verbal meaning
Non-deictic SAT	上	*-shang* 'up'	*shàng* 'ascend'
	下	*-xia* 'down, off'	*xià* 'descend'
	进	*-jin* 'in'	*jìn* 'enter'
	出	*-chu* 'out'	*chū* 'exit'
	回	*-hui* 'back'	*huí* 'return'
	过	*-guo* 'across, over, past, through'	*guò* 'cross'
	起	*-qi* 'up'	*qǐ* 'rise'
	开	*-kai* 'apart, away'	*kāi* 'open'
	到	*-dao* 'to'	*dào* 'arrive'
Deictic SAT	来	*-lai* 'hither'	*lái* 'come'
	去	*-qu* 'thither'	*qù* 'go'

As shown in Table 1, in Standard Chinese, satellites expressing Path information are a closed-class category comprising nine non-deictic satellites and two deictic satellites (Liu 1998; see also Chao 1968: 458; C. N. Li and Thompson 1981: 59; Talmy 2000: 109 for slightly different inventories). Furthermore, these two types of satellites can combine in the following order to form bipartite satellites: non-deictic satellite + deictic satellite. However, it is important to note that when 到 *-dao* 'to' is combined with deictic satellites, an NPloc must be inserted between *-dao* and the deictic satellites

5. A satellite refers to a type of closed-class element that is defined by Talmy (2000: 102) 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". In Chinese, the satellites are grammaticalized from verbs and are typically realized by verb complements that are called, more specifically, 趋向补语 *qūxiàng bǔyǔ* 'directional complements'.

-lai/*-qu*. There is one exception to this rule: the non-deictic satellite 起 *-qi* 'up' cannot combine with the deictic satellite 去 *-qu* 'thither'.

Example (3) shows the use of the non-deictic satellite 上 *-shang* 'up' followed by 屋顶 *wūdǐng* 'roof' expressing the Goal. By contrast, Example (4) shows the bipartite satellite 出去 *-chu-qu* 'out thither' preceded by the prepositional phrase 从屋里 *cóng wū=li* 'from the room' expressing the Source.

(3) 小红爬上了屋顶。
Xiǎohóng pá-shang-le wūdǐng.
Xiaohong climb-up-PFV roof
'Xiaohong climbed onto the roof.'

(4) 小王从屋里跑出去了。
Xiǎo-Wáng cóng wū=li pǎo-chu-qu le.
Young-Wang from room=inside run-out-thither CRS
'Wang ran out of the room (away from the deictic center).'

2.3 Adnominal encoding

The Source and Goal information can also be expressed via a preposition. Table 2 shows the inventory of prepositions (henceforth PREP) in Standard Chinese (adapted from Chu 2004: 188). There are two positions of the prepositional phrases (henceforth PPs) with respect to the verb/verb phrase (henceforth V/VP), before V (henceforth PP-V) and after V (henceforth V-PP).

Table 2. Prepositions encoding Path and their position

Path phases	Positions of PPs with respect to V	Examples of PREPs
Source	PP-V	从 *cóng* 'from', 由 *yóu* 'from'
Medium	PP-V	沿 *yán* 'along', 从 *cóng* 'through, over'
Goal	PP-V	朝 *cháo* 'towards', 往 *wǎng* 'towards', 向 *xiàng* 'towards'
	V-PP	往 *wǎng* 'towards', 向 *xiàng* 'towards', 在 *zài* 'at'

The following examples show two cases of the encoding of Goal-oriented Path. In Example (5), the preposition 朝 *cháo* 'towards' followed by an NPloc 河边 *hébiān* 'river bank' is used before the VP 走去 *zǒu-qu* 'walk thither'. By contrast, the preposition 在 *zài* 'at' plus an NPloc 书架 *shūjià* 'bookshelf' is used after the VP in (6). Note also that 在 *zài* 'at' is the only preposition with which the direction information is not expressed. Other prepositions express the direction of Source 'from', the direction of Medium 'along, over' and the direction of Goal 'towards'.

(5) 小芳朝河边走去。
XiǎoFāng cháo hébiān zǒu-qu.
Xiaofang towards river.bank walk-thither
'Xiaofang is walking towards the river bank (away from the deictic center).'

(6) 他把书放在书架上。
Tā bǎ shū fàng zài shūjià=shang.
3SG OM book put at bookshelf=upside
'He put the book on the bookshelf.'

3. Methodology: Elicitation tools, speakers, and data

This study is based on spoken data collected from native speakers of Standard Chinese.[6] To carry out this study, I chose two visual-stimuli tools to elicit descriptions of spontaneous motion and caused motion events.

To elicit spontaneous motion, I used the stimulus set *Trajectoire* (Ishibashi et al. 2006). It consists of 76 video-clips, including 2 training clips, 19 fillers and 55 target clips. The results presented in Section 4 are based only on the 55 target clips that show people moving in different directions with respect to different reference points (e.g. 'walking out of the cave', 'walking into the cave'). The data collection took place in January 2017, individually, with 12 native speakers of Standard Chinese including 6 males and 6 females aged between 19 and 24 (mean age 21). All of them are university students of Hebei University (Hebei, China) and Beijing University (Beijing, China).

To elicit caused motion, I used the stimulus set *Put and Take* (Bowerman et al. 2004). This stimulus is composed of 63 short video-clips (plus 3 warm-up clips) showing people putting things in places and removing them from places (e.g. 'putting a candle into a candlestick', 'taking a candle out of a candlestick'). I carried out the data collection in January 2015 with 12 native speakers of Standard Chinese including 6 males and 6 females aged between 20 and 32 (mean age 27). They are university students of the Université Lumière Lyon 2 and the Université Jean Moulin Lyon 3 (Lyon, France).

In total, the data set comprises 660 descriptions of spontaneous motion (55 clips * 12 speakers) and 756 descriptions of caused motion (63 clips * 12 speakers).[7]

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6. Most of the participants (21 out of 24) come from Northern China and their linguistic backgrounds are quite homogeneous.

7. Some speakers used more than one clause (two or three clauses) to describe one scene. Under this condition, I therefore count 702 clauses in *Trajectoire* data. The same principle is applied in *Put and Take* data that include 780 clauses.

However, in order to make the two event types comparable, I select systematically from each stimulus set two groups of events for data analyses (Section 5). The first group is composed of simple motion events including one portion of Path, either Source or Goal. It comprises corresponding pairs of clips showing events involving Source-oriented Path and Goal-oriented Path (see Appendix 1 and Appendix 2). The second group involves complex motion events that comprise a Source-Goal-oriented Path which describes a Figure moving from a source location to a goal location (see Appendix 3 and Appendix 4).

The main parameter that differentiates Source-oriented Path and Goal-oriented Path is the Directionality: 'away from' vs. 'towards', 'out of' vs. 'into', 'from' vs. 'to'. All the other parameters such as the Figure (e.g. 'man', 'woman', 'child', etc.), the Ground (e.g. 'cave', 'woods', 'candlestick', etc.), and the Manner of motion (e.g. 'walk', 'run', 'insert', etc.) are similar. These parameters do not influence the results since they were controlled for when the material was designed. For spontaneous motion events, I selected 8 clips of Source-oriented Path (e.g. 'from the tree', 'out of the cave') and 8 clips of Goal-oriented Path (e.g. 'into the woods', 'towards the woman') (see Appendix 1). I selected five clips of Source-Goal-oriented Path showing complex motion events (see Appendix 3). For caused motion events, I chose 22 clips showing Source-oriented Path (e.g. 'take a candle out of a candlestick') and 22 clips showing Goal-oriented Path (e.g. 'put a stone into the pocket') (see Appendix 2). I selected three clips of Source-Goal-oriented Path that combine both the starting point and the endpoint of Path (see Appendix 4).

4. The encoding of Source-oriented Path, Goal-oriented Path and Source-Goal-oriented Path

In this section, I examine two different strategies that native speakers of Standard Chinese have chosen to express Source-oriented Path, Goal-oriented Path, and Source-Goal-oriented Path in both types of events (spontaneous motion and caused motion events).[8] One strategy is by single linguistic resources and the other is by multiple linguistic resources.

8. Since this chapter mainly focuses on the Source-Goal asymmetry, expressions concerning Medium are not presented in the examples.

4.1 Strategy 1: Single linguistic resources

In spontaneous motion events, speakers use verbs, satellites, or prepositions to express Source-oriented Path or Goal-oriented Path. Among the three linguistic resources, verbal encoding (verbs) is used exclusively in this type of event. By contrast, in caused motion events, speakers use satellites, prepositions, or modifiers to express Source-oriented Path or Goal-oriented Path, among which modifiers are exclusive to caused motion events.[9] I present the use of these single linguistic resources in the following subsections in spontaneous motion (4.1.1) and caused motion (4.1.2) respectively.

4.1.1 *The encoding of spontaneous motion events: Verbs, satellites or prepositions*

In spontaneous motion events, verbal encoding (verbs) is the least frequent resource used to express Source-oriented Path or Goal-oriented Path compared with adverbal (satellites) and adnominal (prepositions) encoding. The verbal encoding accounts for only 4.1% (29 out of 702) in the data and is found only in the expression of spontaneous motion events. The Path verbs in *Trajectoire* data include 出 *chū* 'exit', 下 *xià*, 'descend' indicating Source-oriented Path, 穿 *chuān* 'pass through', 经过 *jīngguò* 'pass by', 路过 *lùguò* 'pass by', and 越过 *yuèguò* 'cross' indicating Medium-oriented Path, and 回 *huí* 'return', 进 *jìn* 'enter', and 上 *shàng* 'ascend' indicating Goal-oriented Path.

If we take 出 *chū* 'exit' and 进 *jìn* 'enter' as examples, these are two Path verbs that express Source-oriented Path and Goal-oriented Path, respectively. Both verbs can be followed by either a deictic satellite or an NPloc. Example (7) shows the use of the Path verb 出 *chū* 'exit' indicating Source-oriented Path, followed by the deictic satellite 来 *lai* 'hither'. Example (8) shows the use of the Path verb 进 *jìn* 'enter' indicating Goal-oriented Path followed by an NPloc 庄稼地 *zhuāngjiadì* 'cropland' expressing the Goal.

(7) 这位女士出来了。
Zhè wèi nǚshì chū-lai le.
this CL lady exit-hither CRS
'This lady came out hither.' (Traj_023_S11)[10]

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9. In Standard Chinese, modifiers can express the initial location (i.e. Source) of a moving entity (the Figure) using a phrasal modifier marked by the genitive marker 的 *de* 'GEN' that is placed before the noun.

10. Traj/P and T are the abbreviations of the visual stimuli *Trajectoire/Put and Take*; 023 refers to the scene code; S11 refers to the speaker number 11. I apply the same principle of citation with examples in my data throughout this chapter.

(8) 一个女人提着篮子进了庄稼地。
Yí gè nǚrén tí-zhe lánzi jìn-le zhuāngjiadì.
one CL woman carry-DUR basket enter-PFV cropland
'A woman entered the cornfield carrying a basket.' (Traj_069_S4)

As to the adverbal encoding (satellites), speakers use both simple non-deictic satellites and bipartite satellites to express Source-oriented Path and Goal-oriented Path.[11] Example (9) shows how the speaker expresses Source-oriented Path through the non-deictic Path satellite 出 *-chu* 'out' indicating Source-oriented Path, followed by an NPloc 山洞 *shāndòng* 'cave' expressing the Source. In Example (10), the Goal information is expressed by the non-deictic Path satellite 进 *-jin* 'into' indicating Goal-oriented Path, followed by an NPloc 树林里 *shùlín=li* 'inside of the woods' expressing the Goal.

(9) 一个女人走出山洞。
Yí gè nǚrén zǒu-chu shāndòng.
one CL woman walk-out cave
'A woman walked out of the cave.' (Traj_025_S1)

(10) 一个男士走进了树林里。
Yí gè nánshì zǒu-jin-le shùlín=li.
one CL man walk-into-PFV woods=inside
'A man walked into the woods.' (Traj_056_S5)

With regard to the adnominal encoding (prepositions), PPs can be placed only before the verb to express Source-oriented Path, whereas they can be placed either before or after the verb to express Goal-oriented Path. For instance, (11) shows how Source-oriented Path is expressed using the preposition 从 *cóng* 'from' and an NPloc 远处 *yuǎnchù* 'distant place' indicating the Source. Examples (12) and (13) show how Goal-oriented Path is expressed, with the prepositional phase 向 *xiàng* 'towards'+ NPloc either preceding the verb 走 *zǒu* 'walk' or following the verb 跑 *pǎo* 'run'.

(11) 一位男士从远处走来。
Yí wèi nánshì cóng yuǎnchù zǒu-lai.
one CL man from distant.place walk-hither
'A man came here from afar.' (Traj_035_S2)

11. Bipartite satellites are used less frequently in single linguistic resources compared with simple non-deictic satellites combined with an NPloc.

(12) 女人向丛林里走去。
Nǚrén xiàng cónglín=li zǒu-qu.
woman towards jungle=inside walk-thither
'The woman is walking towards the jungle (away from the deictic center).'
(Traj_057_S9)

(13) 男孩儿跑向海里。
Nánháir pǎo xiàng hǎi=li.
boy run towards sea=inside
'The boy is running towards the sea.' (Traj_059_S10)

4.1.2 *The encoding of caused motion events: Satellites, prepositions or modifiers*

Concerning caused motion events, Examples (14) and (15) illustrate how the speakers express Source-oriented Path and Goal-oriented Path, respectively, with the help of adverbal encoding (satellites). To describe the Source information, the speaker uses a non-deictic satellite 出 *-chu* 'out' expressing the Source-oriented Path combined with a deictic satellite 来 *-lai* 'hither' expressing the perspective. To describe the Goal information, the speaker uses a non-deictic satellite 回 *-hui* 'back' followed by an NPloc 桌子上 *zhuōzi=shang* 'the surface of the table'.

(14) 他把黄瓜拿出来了。
Tā bǎ huángguā ná-chu-lai le.
3SG OM cucumber take-out-hither CRS
'He took out the cucumber [towards the deictic center].' (P and T_115_S5)

(15) 这个人把香蕉用夹子夹回了桌子上。
Zhè gè rén bǎ xiāngjiāo yòng jiāzi jiā-hui-le
this CL person OM banana with tongs press.from.both.sides-back-PFV
zhuōzi=shang.
table=upside
'This person put a banana back on the table with tongs.' (P and T_003_S8)

As for adnominal encoding, prepositions alone cannot describe Source-oriented Path. Such prepositional phrases always combine with other elements, such as a satellite, to encode Source-oriented Path.[12] Examples (16) and (17) display the case of prepositions expressing Goal-oriented Path, either before or after the verb.

12. I discuss this case in the Subsection 4.2 when presenting multiple linguistic resources.

(16) 他往锅里丢了一块砖。
Tā wǎng guō=li diū-le yí kuài zhuān.
3SG towards pot=inside throw-PFV one CL brick
'He threw a piece of brick into the pot.' (P and T_019_S12)

(17) 她把画贴在了墙上。
Tā bǎ huà tiē zài le qiáng=shang.
3SG OM picture paste at PFV wall=upside
'She put the picture on the wall.' (P and T_028_S9)

Apart from adverbal and adnominal encoding, there are also modifiers (hereafter MDF) that can encode Source-oriented Path. However, this linguistic strategy is found only in caused motion event descriptions as Example (18) shows.

(18) 一个人把粘在墙上的画撕下来了。
Yí gè rén bǎ zhān zài qiáng=shang de huà sī-xia-lai le.
one CL person OM paste at wall=upside GEN picture tear-off-hither CRS
'A man tore the picture off the wall [towards the deictic center].' (P and T_128_S7)
(lit. A man took down the picture that was stuck on the wall).

4.2 Strategy 2: Multiple linguistic resources

Single linguistic resources can only be used to express simple Path. However, multiple linguistic resources can be used to express both simple Path and complex Path.

4.2.1 *The encoding of simple Path*

Source-oriented Path can be encoded not only by a single morphosyntactic element among verbs (in spontaneous motion only), satellites, prepositions, and modifiers (in caused motion only), but also by two or three elements that combine different single linguistic resources, as Examples (19) and (20) illustrate. In (19), a spontaneous motion event, the Source information is encoded using the Source-oriented preposition 从 *cóng* 'from' and the non-deictic satellite 出 *-chu* 'out'. In (20), a caused motion event, the Source information is encoded by employing three elements: the Source-oriented preposition 从 *cóng* 'from', the Source-oriented verb 拔 *bá* 'pull' and the Source-oriented satellite 出 *-chu* 'out'.

(19) 一个女士从石洞里面走出去。
Yí gè nǚshì cóng shídòng=limian zǒu-chu-qu.
one CL woman from cave=inside walk-out-thither
'A woman walked out of the cave thither.' (Traj_029_S3)

(20) 他把蜡烛从烛台里拔了出来。
Tā bǎ làzhú cóng zhútái =li bá-le-chu-lai.
3SG OM candle from candlestick=inside pull-PFV-out-hither
'He took the candle from the candlestick [towards the deictic center].'
(P and T_114_S5)

In most cases, speakers choose to encode Goal-oriented Path using single linguistic resources. However, we can also find multiple linguistic resources expressing Goal information, especially when the verb indicates Goal-oriented Path, such as 插 *chā* 'insert' in (21).

(21) 她把蜡烛插进了烛台里。
Tā bǎ làzhú chā-jin-le zhútái=li.
3SG OM candle insert-into-PFV candlestick=inside
'She put a candle into a candlestick.' (P and T_014_S5)

4.2.2 *The encoding of complex Path*

In terms of complex Path, multiple linguistic resources are used to express Source-Goal-oriented Path. In general, when a complex Path is formed of boundary crossing events, speakers usually use more than one clause in a sentence to express Source and Goal information in different clauses, as shown in (22).[13] By contrast, when a complex Path is formed of non-boundary-crossing events, multiple linguistic resources are usually used to express Source and Goal in one clause, as exemplified in (23).

(22) 一个女人走出山洞，提起了山洞门口的篮子，又走回了山洞。
Yí gè nǚrén zǒu-chu shāndòng, tí-qi-le shāndòng ménkǒu de
one CL woman walk-out cave, lift-up-PFV cave entrance GEN
lánzi, yòu zǒu-hui-le shāndòng.
basket again walk-back-PFV cave
'A woman walked out of the cave, lifted the basket that was in front of the cave, and walked back to the cave again.' (Traj_024_S6)

(23) 一个男孩儿从一个石头上跳到另一个石头上。
Yí gè nánháir cóng yí gè shítou=shang bèng dào lìng yí
one CL boy from one CL stone=upside jump to another one
gè shítou=shang.
CL stone=upside
'A boy jumped from one stone to another.' (Traj_075_S7)

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13. According to Slobin (2004: 226): "with regard to motion events, changes of state are boundary-crossing events: enter, exit, cross."

As in spontaneous motion events in Examples (22) and (23), in caused motion events speakers also use multiple linguistic resources to express complex Path (i.e. Source and the Goal information). Since the target scenes in *Put and Take* are of non-boundary-crossing events, in most cases we find only one clause in speakers' descriptions, as illustrated in (24).

(24) 她把一包糖从桌子上放到椅子上。
Tā bǎ yì bāo táng cóng zhuōzi=shang fàng-dao yǐzi=shang.
3SG OM one CL sweet from table=upside put-to chair=upside
'She put a packet of sweets from the table onto the chair.' (P and T_050_S5)

5. Source–Goal asymmetries in stimuli data of Standard Chinese

The analysis of the *Trajectoire* and *Put and Take* data collected with native speakers of Standard Chinese reveals several asymmetrical phenomena in Source-Goal expressions. These asymmetries are found not only at the morphosyntactic level, but also in the frequency of use.

5.1 Asymmetry 1: Multiple elements for Source encoding vs. Single element for Goal encoding

The data reveal that Source information is more likely to be expressed by multiple linguistic elements (adnominal + adverbal), whereas Goal information tends to be expressed by one element (adnominal or adverbal).

Table 3 and Table 4 illustrate the patterns of distribution in Source-oriented Path and Goal-oriented Path descriptions in spontaneous and caused motion events, respectively.[14] As these tables reveal, Source information is conveyed more frequently by a combination of two elements (prepositional phrase + satellite) and this is found in both spontaneous and caused motion events. By contrast, Goal information is usually conveyed by a single grammatical resource, either a satellite or a prepositional phrase, in both spontaneous motion and caused motion. It is also important to point out that, in the expression of Goal-oriented Path, PPs occur more frequently after the verb than before the verb. This preference is observed in both types of events.

14. Although the target scenes selected for analysis emphasize either Source-oriented Path or Goal-oriented Path, speakers sometimes describe more than one phase of the Path. These cases are ignored in my calculation in Table 3 and Table 4.

Table 3. Distribution patterns in spontaneous motion events (*Trajectoire* corpus)

Patterns in Source-oriented Path descriptions (69/192)			Patterns in Goal-oriented Path descriptions (81/192)		
PP + SAT	30.2%	(58/192)	SAT	21.4%	(41/192)
SAT	2.6%	(5/192)	PP (after V)	15.1%	(29/192)
PP + V	1.6%	(3/192)	PP (before V)	4.2%	(8/192)
PP	1.0%	(2/192)	V	1.0%	(2/192)
V	0.5%	(1/192)	V + SAT	0.5%	(1/192)

Table 4. Distribution patterns in caused motion events (*Put and Take* corpus)

Patterns in Source-oriented Path descriptions (158/528)			Patterns in Goal-oriented Path descriptions (254/528)		
PP + SAT	20.5%	(108/528)	SAT	24.2%	(128/528)
MDF + SAT	8.1%	(43/528)	PP (after V)	22.3%	(118/528)
MDF	1.3%	(7/528)	PP (before V)	1.5%	(8/528)

In the following part, I show examples describing Source and Goal information in spontaneous motion (Examples 25–28) and in caused motion events (Examples 29–32). Example (25) illustrates how the Source information in spontaneous motion is expressed by a prepositional phrase 从丛林里 *cóng cónglín=li* 'from the inside of the woods' combined with a satellite 出 *-chu* 'out'.

(25) 男人从丛林里走出来。
Nánrén cóng cónglín=li zǒu-chu-lai.
man from wood=inside walk-out-hither
'The man walked here from out of the woods.' (Traj_055_S10)

Although speakers prefer to encode Source information by multiple elements, they sometimes also choose a single element. Example (26) shows the expression of Source-oriented Path using the satellite 出 *-chu* 'out' followed by an NPloc 山洞 *shāndòng* 'cave'.

(26) 一个女人走出山洞。
Yí gè nǚrén zǒu-chu shāndòng.
one CL woman walk-out cave
'A woman walked out of the cave.' (Traj_025_S1)

Examples (27) and (28) describe Goal-oriented Path: the former example by a satellite 进 *-jin* 'into' followed by an NPloc 一块田地 *yí kuài tiándì* 'a field' and the latter one by a prepositional phrase 向一棵树 *xiàng yì kē shù* 'towards a tree'. It is usually the case that Goal is encoded in one element and there are rarely two elements combined to express Goal information.

(27) 一个女人走进一块田地。
Yí gè nǚrén zǒu-jin yí kuài tiándì.
one CL woman walk-into one CL field
'A woman walked into a field.' (Traj_069_S12)

(28) 一位女士走向一棵树。
Yí wèi nǚshì zǒu xiàng yì kē shù.
one CL woman walk towards one CL tree
'A girl walked towards a tree.' (Traj_061_S4)

Example (29) shows the expression of Source information in caused motion events: the prepositional phrase 从箱子里面 *cóng xiāngzi=limian* 'from the box' and a satellite 出 *-chu* 'out' are combined.

(29) 他从箱子里面拿出了一个橘子。
Tā cóng xiāngzi=limian ná-chu-le yí gè júzi.
3SG from box=inside take-out-PFV one CL orange
'He took an orange from the box.' (P and T_111_S10)

Although the information of Source can also be expressed by a single element, such as the satellite 出 *-chu* 'out' in (30), it is important to note that the NPloc is usually omitted in caused motion events; instead, a deictic satellite 来 *-lai* 'hither' is used.

(30) 他把黄瓜拿出来了。
Tā bǎ huángguā ná-chu-lai le.
3SG OM cucumber take-out-hither CRS
'He took out the cucumber hither.' (P and T_115_S5)

Examples (31) and (32) describe how the information of Goal is expressed in caused motion events. The former example is illustrated by a prepositional phrase 在树杈上 *zài shùchà=shang* 'over the branch' and the latter one by a satellite 进 *-jin* 'into' followed by an NPloc 桶里 *tǒng=li* 'the inside of the bucket'.

(31) 他把绳子放在树杈上。
Tā bǎ shéngzi fàng zài shùchà=shang.
3SG OM rope put at branch=upside
'He hung the rope over the tree branch.' (P and T_027_S3)

(32) 他把头伸进了桶里。
Tā bǎ tóu shēn-jin-le tǒng=li.
3SG OM head stretch-into-PFV bucket=inside
'He put his head into the bucket.' (P and T_024_S5)

5.2 Asymmetry 2: Source information expressed by modifiers

The second asymmetrical case concerns modifier encoding for Source-oriented Path. Source information can be expressed not only by prepositional phrases and satellites but also by modifiers, whereas Goal-oriented Path cannot be expressed via this linguistic resource. Unlike English or other languages that have relative pronouns to signal the relative construction that is usually placed after the noun, in Standard Chinese such clauses precede the noun (the Figure) and are marked by the genitive marker 的 *de* 'GEN', functioning like phrasal modifiers. In adopting such a strategy, speakers of Standard Chinese can express the initial location of the moving entity.

I have mentioned in Section 4.1.2 that the use of modifiers to encode Source information is only found in caused motion events. Table 5 presents the frequency of use of modifiers in the *Put and Take* data for expressing Source information. In simple Path events in which only the Source information is encoded, modifiers account for 10.7% of cases, as instantiated in (33); this phrasal modifier 地上的 *dì=shang de* '(that was) on the floor' indicates the place where the magazine had been placed before being moved by the Agent. In complex Path events where both Source and Goal information are expressed in one clause, modifiers describing the Source occur more frequently, accounting for 33.3% of cases, as shown by Example (34) in which Source information is encoded by 书上的 *shū=shang de* '(that was) on the book' in modifier position and the Goal information by a satellite 到 *-dao* followed by an NPloc 鞋子上 *xié-zi=shang* 'the above of the shoe'.

(33) 他捡起了地上的杂志。
Tā jiǎn-qi-le dì=shang de zázhì.
3SG pick-up-PFV floor=upside GEN magazine
'He picked the magazine up from the floor.' (P and T_107_S10)
(lit. He picked up the magazine that was on the floor)'.

(34) 这个人把书上的苹果放到了鞋上。
Zhè gè rén bǎ shū=shang de píngguǒ fàng-dao-le xié=shang.
this CL person OM book=upside GEN apple put-to-PFV shoe=upside
'He put the apple that was on the books onto the shoe.' (P and T_051_S7)

Table 5. Frequency of Source-expressing modifiers in caused motion events (*Put and Take* corpus)

Modifiers	Simple path events	Complex path events
Tokens	57/535	14/42
Percentages	10.7%	33.3%

5.3 Asymmetry 3: Source-Goal asymmetry in terms of frequency

The analysis of the Source and Goal expressions in my data supports the Source-Goal asymmetry in terms of frequency of expression in both spontaneous and caused motion events. As expected, in the description of simple Path events, Source is the most frequent information in descriptions of clips involving Source-oriented Path, and Goal the most frequent information in descriptions of clips involving Goal-oriented Path. However, there is an interesting difference between the two event types in complex Path events. Although both Source and Goal are predominantly expressed in Source-Goal-oriented events, when the speakers choose to describe one portion of Path only in complex Path events, the most frequently expressed information is the Source in the case of spontaneous motion events, and the Goal in the case of caused motion events.

Tables 6–9 present, for each type of event (spontaneous vs. caused in simple event, spontaneous vs. caused in complex event), the encoded information, either a single portion of the Path (i.e. Source, Medium, and Goal, henceforth S, M, and G) or a combination of different Path information (S + M, M + G, S + G, S + M + G).

The results show that in simple Path events, in both spontaneous (Table 6) and caused motion (Table 7) events, Source information is found mostly in the descriptions of Source-oriented Path (71.9% in *Trajectoire* data and 95.5% in *Put and Take* data) and Goal information is mostly found in the descriptions of Goal-oriented Path (79.2% in *Trajectoire* data and 96.2% in *Put and Take* data).

Table 6. Distribution of Path encoding in simple Path events of spontaneous motion (*Trajectoire* corpus)

Clips involving Source-oriented Path				Clips involving Goal-oriented Path			
Encoded information	**Percentage**		**Example**	**Encoded information**	**Percentage**		**Example**
S	71.9%	(69/96)	(7), (9), (11), (25), (26)	G	79.2%	(76/96)	(8), (10), (12), (13), (27), (28)
S + G	10.4%	(10/96)		S + G	15.6%	(15/96)	
S + M	6.3%	(6/96)		M + G	5.2%	(5/96)	
M	5.2%	(5/96)					
G	5.2%	(5/96)					
S + M + G	1.0%	(1/96)					

Table 7. Distribution of Path encoding in simple Path events of caused motion (*Put and Take* corpus)

Clips involving Source-oriented Path				Clips involving Goal-oriented Path			
Encoded information	**Percentage**		**Example**	**Encoded information**	**Percentage**		**Example**
S	95.5%	(252/264)	(14), (18), (19), (20), (29), (30), (33)	G	96.2%	(254/264)	(15), (16), (17), (21), (31), (32)
S + G	3.0%	(8/264)		S+G	2.7%	(7/264)	
G	1.5%	(4/264)		S	1.1%	(3/264)	

Table 8 and Table 9 show that the most frequent case in complex Path events in spontaneous (58.3%) and caused motion (80.6%) is to express both Source and Goal information simultaneously. Besides, when a single piece of information is expressed in complex Path events, the distribution of Source and Goal behave asymmetrically in the *Trajectoire* data: the encoding of Source is more frequent than the encoding of Goal (Source 40.0% vs. Goal 1.7%). This asymmetry contrasts with the *Put and Take* data where Source is not found in the expression of complex Path events; only Goal information is expressed (19.4%).

Table 8. Distribution of Path encoding in complex Path events of spontaneous motion (*Trajectoire* corpus)

Clips involving Source-Goal-oriented Path			
Encoded information	**Percentage**		**Example**
S + G	58.3%	(35/60)	(22), (23)
S	40.0%	(24/60)	
G	1.7%	(1/60)	

Table 9. Distribution of Path encoding in complex Path events of caused motion (*Put and Take* corpus)

Clips involving Source-Goal-oriented Path			
Encoded information	**Percentage**		**Example**
S + G	80.6%	(29/36)	(24), (34)
G	19.4%	(7/36)	

6. Conclusion

This chapter outlines the different linguistic resources used to express Path information in Standard Chinese, with a specific focus on the encoding of Source-oriented, Goal-oriented, and Source-Goal-oriented Paths. In terms of the grammatical resources found in the expression of simple and complex motion events, both single and multiple strategies are chosen by the speakers to express Source and Goal information. Moreover, the modifier that usually indicates the original location (i.e. the Source) of the moving entity (i.e. the Figure) is also employed exclusively in caused motion events. In terms of the Source-Goal asymmetry, several cases have been identified.

First, in both spontaneous and caused motion events, Source is distributed more often over multiple elements, such as a prepositional phrase combined with a satellite, thereby manifesting a more complex encoding strategy. As for Goal, it tends to be expressed mainly in a single element, either a PP after the verb or a satellite. These two different strategies for Source and Goal information encoding reveal that each semantic component of Path shows a preference for specific linguistic resources.

Additionally, the Source information is often expressed by modifiers in the description of Source-Goal-oriented Path and Source-oriented Path, whereas no modifiers were found in the description of Goal-oriented Path.

In terms of simple Path event encoding, Source is the most frequent in descriptions of clips involving Source-oriented Path and Goal is the most frequent in descriptions of clips involving Goal-oriented Path, in both spontaneous motion and caused motion. As for the clips showing Source-Goal-oriented complex Path, speakers show a preference to encode both Source *and* Goal information. Yet, when only one element is encoded in such complex Path events, the speakers choose to express Source more often in spontaneous motion, and Goal more often in caused motion. This study confirms the asymmetry between Source and Goal that has been observed in previous studies, conducted across different languages, and, at the same time, it reveals some language-specific characteristics of Standard Chinese regarding the asymmetry phenomenon.

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Abbreviations in example glosses

3SG	third person singular	GEN	genitive marker
CL	classifier	OM	object marker
CRS	current relevant state	PFV	perfective
DUR	durative		

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Appendix 1. Simple Path events (8 clips showing Source-oriented Path and 8 clips showing Goal-oriented Path) selected from *Trajectoire* stimuli

#	Clips involving Source-oriented Path	Clips involving Goal-oriented Path
1	023_Path_F_walk_outof_cave_front	053_Path_F_walk_into_cave_back
2	025_Path_F_walk_outof_cave_back	054_Path_F_walk_into_cave_front
3	027_Path_F_walk_outof_woods_sideRL	057_Path_F_walk_into_woods_sideLR
4	031_Path_M_run_outof_sea_sideRL	059_Path_C_run_into_sea_sideRL
5	032_Path_F_walk_awayfrom_tree_front	061_Path_F_walk_toward_tree_back
6	035_Path_M_walk_awayfrom_F_front	036_Path_M_walk_toward_F_back
7	038_Path_F_walk_outof_field_sideRL	069_Path_F_walk_into_field_sideLR
8	055_Path_M_walk_out of_woods_front	026_Path_M_walk_into_woods_back

Appendix 2. Simple Path events (22 clips showing Source-oriented Path and 22 clips showing Goal-oriented Path) selected from *Put and Take* stimuli

#	Clips involving Source-oriented Path		Clips involving Goal-oriented Path	
1	101	take a cup off a table	001	put cup on table
2	102	take plastic cup off table with mouth	002	put plastic cup on table with mouth
3	103	take banana off table with long tongs	003	put banana on table with long tongs
4	104	take armload of books off table	004	put armload of books on table
5	105	take a handful of beans from flat surface	005	put a fistful of rice on a table
6	106	take box down from shelf	006	put box up on shelf
7	107	take magazine from floor	007	put book on floor
8	111	take orange from box	011	put apple in bowl
9	114	take a candle out of a candle stand	014	put a candle into a candle stand
10	115	take a cucumber out a recorder case	015	put celery bunch into a recorder case
11	116	take stone out of pocket	016	put stone into pocket
12	117	take rag out of car exhaust	017	stuff rag into car exhaust
13	118	take flower out of hair – unskewer	018	put flower into hair – skewer
14	119	take stone out of pot of water	019	put stone into pot of water
15	120	pour water out of a tin	020	pour liquid into container
16	124	take head out of bucket	024	put head into a bucket
17	125	take off hat	025	put a hat on head
18	126	take off sock	026	put boot on foot
19	127	unhang' rope from tree branch	027	hang rope over tree branch
20	128	take poster off wall	028	put poster on wall
21	131	take saucer off cup	031	put saucer on top of cup
22	133	take off coat	033	put on coat

Appendix 3. Complex Path events (5 clips showing Source-Goal-oriented Path) selected from *Trajectoire* stimuli

#	Clips involving Source-Goal-oriented Path
1	024_Path_F_walk_out_front_take_walk_into_cave_back
2	028_Path_C_walk_out of_cave_to_sea_sideLR
3	030_Path_C_walk_out of_cave_toward_C_sideLR
4	064_Path_C_jump_from_cliff_into_water_sideLR
5	075_Path_C_jump_from_rock_to_rock_sideRL

Appendix 4. Complex Path events (3 clips showing Source-Goal-oriented Path) selected from *Put and Take* stimuli

#	Clips involving Source-Goal-oriented Path	
1	050	take bag of corn from table and move to chair
2	051	take apple from pile of books and move to shoe
3	052	push suitcase from car to tree

CHAPTER 8

Source–Goal asymmetry in German

A corpus study comparing intentional and non-intentional motion events

Laura Guse
Universität Hildesheim

Following years of intensive research in the field of motion event representation and its encoding in language, it can be concluded that goal paths are predominantly privileged over source paths across many languages and different event types (e.g., Ikegami 1987, Lakusta and Landau 2005, Stefanowitsch and Rohde 2004, Song, this volume). This chapter has two aims: first, to cover the aspect of the granularity of lexicalization patterns encoding goal and source paths in the German language based on qualitative analysis and second, to show that in language, the factors animacy and volition are not mapped onto syntactic structures and do not directly influence the frequency of encoding goal paths. The quantitative corpus study reveals verb-specific preferences for encoding different path elements.

Keywords: corpus linguistics, frequency data, goal bias, granularity, lexicalization patterns

1. Introduction

Recent research has shown that goal paths are privileged over source paths across a wide range of linguistic phenomena (e.g., Ikegami 1987, Lakusta and Landau 2005, Stefanowitsch and Rohde 2004, Papafragou 2010; also Song, this volume).

It has been widely assumed that, linguistically, a motion event consists of three key components: the figure (moving object), the ground (the reference object), and the path (the trajectory of motion). Additionally, for satellite-framed languages, the manner of motion (specification in terms of pace, way of walking, etc.) is also important (Talmy 1985, 2000). The path expressions can be divided into three classes which the figure traverses, from a starting point (source) over mediate points (route) to an endpoint (goal) (Jackendoff 1983, 1991, Lakoff 1987, Talmy 2000, Aurnague, this volume), which are illustrated in (1–3).

https://doi.org/10.1075/hcp.72.08gus

(1) John rannte ins Zimmer.
John ran into:the room.
FIGURE MOTION+MANNER PATH GOAL

(2) John rannte aus dem Zimmer.
John ran out of the room.
FIGURE MOTION+MANNER PATH SOURCE

(3) John rannte über die Straße.
John ran across the street.
FIGURE MOTION+MANNER PATH ROUTE

In the German language, the speaker can add a deictic element to the key components of a motion event: "German requires the speaker to take a viewpoint perspective on the event away from (*hin-*) or toward (*her-*) the deictic center" (Slobin 2005: 2). However, this chapter disagrees with Slobin (2005) in that it argues that the German language allows the addition of spatial deixis, but this is not mandatory. Both the Examples (1) and (4) are grammatically correct. These judgements are supported by the data provided in this chapter.

(4) John läuft ins Zimmer hin -ein.
John walks into:the room thither in.
'John walks into the room' (Slobin 2005: 2)

Our cognition has the capacity to select elements of the motion event and direct our utmost attention to them (Talmy 1996). When these components of the motion event become explicit linguistic material, the process is called windowing, and the other elements can be placed in the background of attention. This exclusion in a language is called "gapping" (Talmy 1996). Maximal windowing refers to the encoding of all three components of the path – source, route, and goal. In some languages, this so-called "complete path" construction is used frequently (Garai and Ibarretxe-Antuñano 2002: 290–291). The data of the three corpus studies presented in this chapter reveal that German speakers usually window one component per utterance. We will refer to this as the "simple path" (Song, this volume). The maximal windowing, even though grammatically correct, is extremely rare (see Figure 1).

In nonlinguistic event representation, it seems that the asymmetry in salience characterizes the motion event representation as well (Lakusta and Landau 2005, Papafragou 2010). This bias has been observed in the production data of brain-damaged patients (Zheng and Goldin-Meadow 2002) and the spontaneous gestures of deaf children (Ihara and Fujita 2000). But why is the goal path privileged over the other components of motion events, both linguistically and cognitively?

The idea that the semantic factors volition and animacy could have an impact on the encoding of motion events has been discussed broadly by various linguists. It is illustrated in (5) and (6).

(5) a. I ran from the bus station all the way to school.
b. I ran to school.
c. I ran all the way.
d. I ran from the bus station.

Windowing only the source path as in Example (5d) seems to be odd. However, considering the examples in (6), the same construction seems to sound perfectly well.

(6) a. The apple fell from the tree through the air onto the grass.
b. The apple fell onto the grass.
c. The apple fell through the air.
d. The apple fell from the tree.

What is the difference between the examples in (5) and the examples in (6)? In (5), the agent is presumably human, while the subject in (6) is non-human. Dirven and Verspoor (2004: 88) explicitly state, "We tend to be far more interested in the goal of the action than in the source of the action. […] Therefore, when human action is involved, the goal is far more salient than such a starting point." Stefanowitsch and Rohde (2004) use the term "(psychological) salience hypothesis" for the cognitive explanation of the statement by Dirven and Verspoor (2004). We will adopt this term for the current study.

This chapter has two aims: First, to cover the aspect of the granularity of lexicalization patterns encoding goal and source paths in the German language and second, to show that in language, the factors animacy and volition are not mapped directly onto syntactic structures and do not directly influence the frequency of encoding goal paths. Based on these findings, the salience hypothesis, as a possible explanation for the Source–goal asymmetry in language, must be rejected.

2. The granularity of lexicalization patterns in German

In two experiments, Regier and Zheng (2007) tested speakers of Arabic, Chinese, and English to investigate the hypothesis that speakers make finer semantic distinctions at event endpoints compared to starting points. Their findings show that in all three languages, speakers differentiate goal paths more readily and that they make finer semantic distinctions when they encode goal paths. These results are in line with previous studies (e.g., Bowerman 1996, Bowerman and Choi 2003). Papafragou (2010) considered the question of how English speakers generalize a novel path verb's denotation. Her results show that both 4-year-old children and adults assume that novel verbs for source relations are broader in meaning than those for goal relations. Kopecka (2012) compares the attachment and detachment

events of Polish speakers. She found that speakers of Polish also make fine semantic distinctions when it comes to goal-oriented placement events. In this study, we will follow the current research and use the concept of granularity to explore the Source–goal asymmetry in the German language.

Granularity can be defined as the levels of precision/detail in events (Tutton 2013: 150) or the number of semantic details/components packaged into single lexical items (Wnuk 2016: 10, Stathi 2017). Stathi (2017) illustrates this term as shown in Figure 1. While the motion verb *go* is a semantically general verb, the verb *saunter* is much more specific and contains more information about the manner of movement.

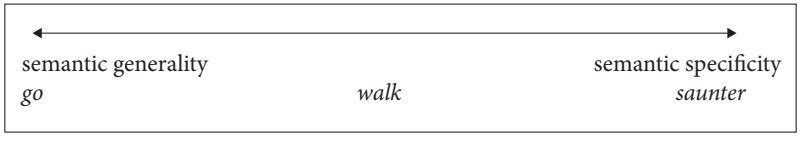

Figure 1. Cline of granularity (Stathi, 2017)

We will start by investigating the granularity of German motion verbs and then explore the granularity of German adpositions and particles.

2.1 The granularity of German motion verbs

Considering a subtype of motion events, attachment and detachment, we can identify an asymmetry in the lexicalization pattern of verbs for joining and separating events (Regier and Zheng 2007) in the German language.

To encode an attachment event, where a figure joins an object that functions as the ground, a speaker of German must choose between three different verbs of positioning – *setzen, stellen*, and *legen* – depending on the characteristics of the figure. In the frame of an attachment event, the German verbs would be translated with the English verb 'to put'.

(7) Ich setze einen Hut auf.
I put a hat on
'I put on a hat.'

(8) Ich stelle die Vase auf den Tisch.
I put the vase onto the table
'I put the vase on the table.'

(9) Ich lege das Buch auf den Schreibtisch.
I put the book onto the table
'I put the book on the desk.'

Turning to the detachment event, a German speaker, in contrast, does not have the choice between different words. Only one lexical item is suitable – *nehmen* ('to take').

(10) Ich nehme den Hut ab.
I take the hat off
'I take off my hat.'

(11) Ich nehme die Vase vom Tisch.
I take the vase off:the table
'I take the vase off the table.'

(12) Ich nehme das Buch vom Tisch.
I take the book off:the table
'I take the book off the table.'

Several examples illustrate that goal paths are encoded in a finer semantic way than source paths, e.g., *hängen* ('to hang'), which is only used for attachment events in a vertical direction, compared to the more general word *nehmen* ('to take') for the detachment counterpart, which is also used for the horizontal direction.

2.2 The granularity of German adpositions

Additionally, there is an asymmetry in the number of adpositions encoding goal and source paths. Table 1 shows the distribution of German prepositions encoding goal, source, and route paths or encoding both goal paths and static locative roles. Speakers of German must choose only between two different prepositions encoding source paths: *aus* 'out of' and *von* 'from'. However, if German speakers want to talk about a motion event windowing the goal path, they must differentiate between eleven prepositions (see Table 1 for the prepositions encoding goal paths).

Table 1. Prepositions encoding paths in German

Path	Prepositions encoding path
Source	*aus* 'out of', *von* 'from'
Route	*durch* 'through'
Goal	*nach, zu* 'to', 'toward'
Goal/ Location	*an, auf*, 'on', *hinter* 'behind', *in* 'in', *neben* 'near', 'next', *über* 'above', *unter* 'under', *vor* 'in front of', *zwischen* 'between'

As Table 1 shows, goal paths and the expression of locatives are semantically close as the same prepositions are used to encode both roles (Nikitina 2009). Only a few prepositions are used solely for encoding goal paths. In combination with a motion verb, every locative expression can also encode a goal path (Gruber 1965). However, the same is not true for source paths.

2.3 Granularity of German complex verbs

Besides the differences in the granularity of German motion verbs and adpositions, there is an asymmetry when it comes to the encoding of source paths compared to route and goal paths. Consider the examples in (13–15).

(13) John rannte zur Frau.
John ran toward: the woman.
FIGURE MOTION+MANNER PATH GOAL

(14) John rannte von der Frau weg.
John ran from: the woman away
FIGURE MOTION+MANNER PATH SOURCE

(15) *John rannte von der Frau.
John ran from: the woman
FIGURE MOTION+MANNER PATH SOURCE

The examples in (13–15) illustrate that most the German constructions must encode only the source path to use a complex verb consisting of a motion verb and a particle expressing a direction. Having said that, we can explain the asymmetry shown in Table 2, which presents the German particles used to convey directions.

Table 2. Particles encoding direction in German

Path	Particles encoding direction
Source	*aus-* 'out of', *raus-* 'out of, *hinaus-* 'out of', *heraus-* 'out of', *weg-* 'away'
Route	*durch-* 'through', *hin-* 'towards', *her-* 'towards'
Goal	*hin-* 'towards', *her-* 'towards'

Contrary to the German adpositions, the number of particles encoding goal paths is lower and the number of particles encoding source paths is higher. At first sight, this may come as a surprise. However, as it is necessary to use a complex verb to window the source path, it seems to be a logical consequence that a language has a wider range of material to do so.

To conclude the analysis presented in this chapter, we can observe a goal bias in the patterns of lexicalization in German. First, to window the goal path of attachment/detachment events, German speakers must choose a verb that is more granular compared to source paths. Second, there are more adpositions to express goal paths than to express source paths. Finally, when speakers of German want to window the source path only, it is obligatory to use a complex verb.

3. Present study: Frequency of encoding source, route and goal paths

3.1 Research questions

The salience hypothesis delivers an explanation for the Source–goal asymmetry. "*For human actions*, the goal is usually more important than the source and the source and goal are usually more important than the path" (Dirven and Verspoor 2004: 84–85, emphasis added). Human actions have two prototypical features: humans are "animate" beings, and their actions are "volitional." We will use these two features to explore the relationship between the goal and bias in language and cognition.

The present corpus study investigates two related research questions: Is there an asymmetry in the frequency of encoding goal paths in German? And if so, do the animacy and volition of the agent have an impact on the frequency of windowing the path components, in particular, the goal path?

3.2 Hypotheses and operationalization

Based on the findings of previous research, three hypotheses can be formulated: (i) there is a preference in German for windowing the goal path and backgrounding other path components; (ii) if the action is intentional, it should be more likely that the goal path is windowed than for non-intentional actions (e.g., Ikegami 1987, Lakusta 2005); (iii) if the agent is human, it should be more likely that the goal path is windowed than for non-human agents (e.g., Dirven and Verspoor 2004). The first hypothesis can be considered correct if there is a significant positive difference in the frequency of encoding goal paths. The second and third hypotheses can be considered true if there is a significant difference in the frequency of encoding goal paths, which would be in line with the factors volition and animacy and support the salience hypothesis.

3.3 Design

To test these three hypotheses, the present study uses corpus-derived frequency data of the German Web corpus *deTenTen* (16.5 billion tokens). To test the factor volition, four motion verbs were chosen: *lauf-* ('to walk'), *renn-* ('to run'), *fall-* ('to fall'), *spring-* ('to jump'), and two causative verbs *schieb-* ('to push') and *zieh-* ('to pull'). The verb *fall-* is considered a non-intentional verb, whereas the causative verbs *schieb-* and *zieh-* are considered more intentional than the other motion verbs (Lakusta et al. 2017, Wolff 2003). Therefore, we have three different classes of volition. For the study,

500 tokens per verb type were extracted manually and classified according to their spatial prepositional phrase (PP).

To test the factor animacy, three groups of agents were created for the corpus study: human, animal, and non-animated. In a second corpus study, 100 tokens for each agent, and each verb were manually extracted and classified according to their spatial PP. It was important to use different verbs for the non-animated agent group as it is mandatory to use specific motion verbs for specific agents in German. In other words, if we have an inanimate agent, e.g., a leaf, we must use a specific motion verb to express the manner of the motion the agent is in. For the non-animated group, the verbs *roll-* ('to roll') and *weh-* ('to waft') were chosen.

3.4 Results and discussion

In the overall analysis of the 3,500 tokens for the verbs *lauf-*, *renn-*, *fall-*, and *spring-* and the two causative verbs *schieb-* and *zieh-*, it was found that three times more goal paths were encoded than source and route paths (see Figure 2).

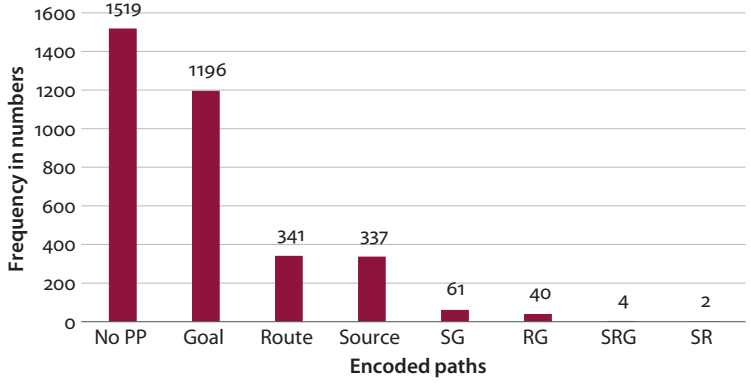

Figure 2. Absolute frequencies of encoded paths for the 3,500 tokens

The first hypothesis is considered true if there is a significant positive difference in the encoding of goal paths ($\chi^2 = 5581.1$, $df = 7$, p-value < 2.2e-16). Indeed, there were more goal paths encoded than route or source paths. The largest group built the tokens without encoding any path information. Source and route paths were encoded almost equally often, which was unexpected. Usually, sources are more important than routes (Dirven and Verspoor 2004: 85). Also remarkable is the fact that even though it seems to be grammatically correct, it is very unusual to window more than one path information within a single utterance in German. Taking all the complex paths together, they only make up 107 tokens of the 3,500 (or 3 percent). To answer the first research question succinctly, there is a goal bias in the frequency

of encoding path information in German as well. The source-goal asymmetry can be observed in the German language.

Turning to the investigation of the next factor, volition, the question was whether it would have an impact on the frequency of encoding goal paths. If the assumptions made in the hypothesis were correct, the causative verbs would show significantly more windowed goal paths than non-intentional verbs as the volition of the agent is higher. Figure 3 illustrates the relative frequencies for the encoded paths depending on the factor volition for simple paths. Goal paths are windowed in 30 percent of all token for the non-intentional verbs, 31 percent of all tokens of the intentional verbs, and 35 percent of all tokens for the causative verbs. The difference between the three groups is insignificant when using a χ^2-test for given probabilities (χ^2- = 0.4375, *df* = 2, p-value = 0.8035).

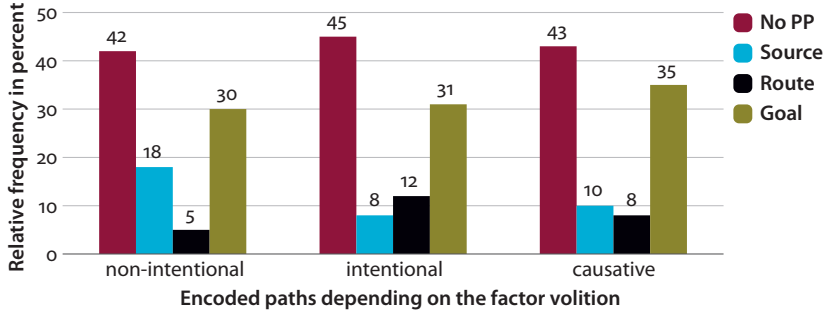

Figure 3. Relative frequencies of encoded paths depending on the factor volition

Figure 4 shows the results for simple paths depending on the factor animacy. If the assumptions made in the third hypothesis were correct, sentences with human agents should window the most goal paths. Indeed, in combination with a human agent, there were significantly more goals highlighted than in combination with animals (χ^2 = 38.105; p-value = 7.198e-06).

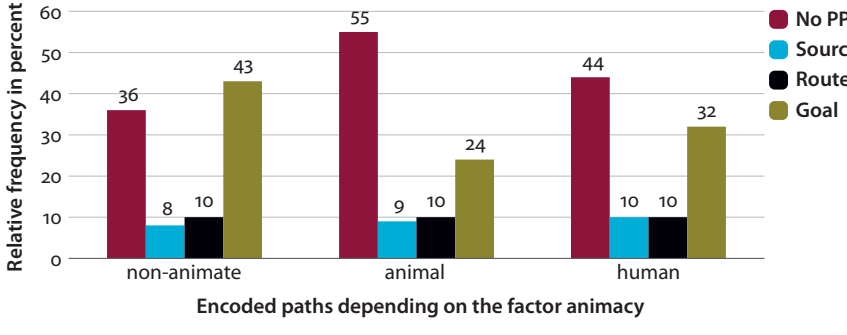

Figure 4. Relative frequencies of encoded paths depending on the factor animacy

However, the most goal paths were windowed for non-animated subjects. These findings contrast with the assumptions made in hypothesis three and do not support the idea that the source-goal asymmetry is based on human actions.

One explanation for these surprising results might lie in the difference between cognitive domains on the one hand and linguistic features on the other: Lakusta and Carey (2014) concluded that language collapses over the finer conceptual domains. Papafragou (2010: 1085) stated that "even though the roots of the source–goal asymmetry may lie in a cognitive–attentional bias, the linguistic manifestations of the asymmetry are subject to language- internal principles (such as the more abstract principles governing naming) and may not align perfectly with the nonlinguistic effects of the bias." We will have a closer look at the verb-specific preferences of the German language to develop the idea of Lakusta and Carey (2014), and Papafragou (2010).

Considering the valency patterns of the verbs tested in the corpus study, this explanation seems to support the findings. We can observe a great variety in the patterns of windowed paths for the causative verbs *schieb-* and *zieh-* ($\chi^2 = 138.39$, $df = 3$, p-value < 2.2e-16). Keeping in mind that these two verbs are both causative, *schieb-* and *zieh-* show an individual valency pattern (see Figure 5).

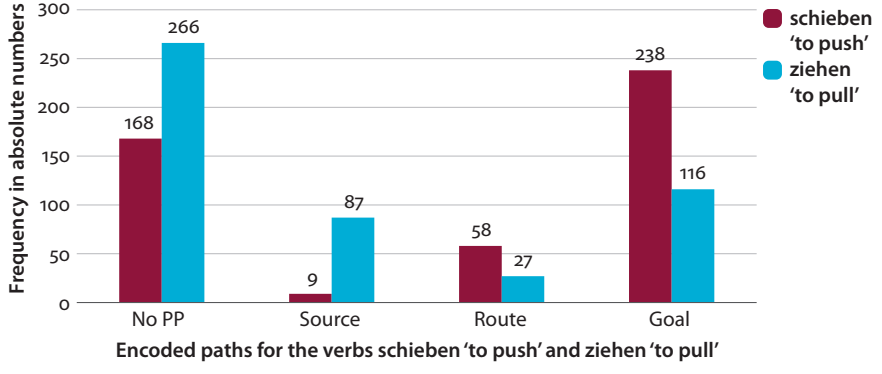

Figure 5. Absolute frequencies of encoded paths for the causative verbs schieben and ziehen

These verb-individual preferences might be due to the verb-specific semantics. The verb *schieben* can be considered as a goal-oriented causative verb; its counterpart *ziehen* can be considered a source-oriented causative verb.

To conclude, it seems that cognitive factors leading to the Source–goal asymmetry cannot be directly observed by investigating linguistic features. The results of corpus investigations could be based on lexical or constructional preferences instead of an underlying concept (Lester 2015).

4. Conclusion

The results in this chapter confirm prior data on the asymmetry between source and goal paths and offer new evidence for the asymmetry in language and cognition (Ikegami 1987, Stefanowitsch and Rohde 2004, Papafragou 2010). First, there is a goal bias in the encoding of motion events in the German language. This is shown by the granularity of lexicalization patterns for German motion verbs, complex motion verbs, and adpositions. When encoding a goal-oriented motion event, speakers of German must choose a verb that is more specific and that contains more semantic information compared to verbs encoding source-oriented motion events. There are more adpositions to express goal-oriented motion events in German. To talk about a source-oriented motion event, speakers of German must use a complex verb to do so. In other words, the source-oriented motion event is the marked event. Turning to the present corpus study, the source-goal asymmetry is also supported by the frequency data provided in this chapter. In an analysis of 3,500 motion events, three times more sentences are encoding the goal of a motion event than the source or the route of the motion event. The salience hypothesis says that people are interested in the intentional actions of human beings and for that reason, we can observe a goal bias in the encoding of motion events.

However, the corpus study shows that the concepts of volition and animacy do not influence the likelihood of windowing the goal path and the results are not in line with the salience hypothesis. Instead, the corpus study of different German motion verbs reveals verb-specific patterns of encoding different path elements. So, language-specific preferences might override the cognitive motivation for the Source–goal asymmetry. Once more, the complexity of the interaction between language and cognition can be observed.

Acknowledgements

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PART III

Motion and constructions

CHAPTER 9

Co-event relations in Swedish motion constructions

Joel Olofsson
University West, Sweden

This paper discusses co-events denoted by verbs used in Swedish motion events. The motion events are analyzed as constructions in the sense of construction grammar, in which the motion component can be argued to be evoked by a syntactic construction rather than by the verb per se.

The manner of motion aspect of motion events has been extensively explored in typological research. The purpose of the paper is to give an overview of co-events often neglected in this research on motion events. Based on empirical findings in large corpora, this paper also focuses on co-event relations other than manner, such as concomitant activities, concurrent results, predicatives and modality.

Keywords: concomitant activities, concurrent results, construction grammar, corpus study, modality, Swedish

1. Introduction

According to Talmy (2000, p. 25), "[t]he basic Motion event consists of one object (the Figure) moving or located with respect to another object (the reference object or Ground)".

Two examples of a Swedish motion event are shown in (1–2).

(1) Jag sprang iväg till bussen
1SG run-PST off to bus-DEF
'I ran off to the bus'

(2) Jag älgade iväg till posten
1SG moose-PST off to post.office-DEF
'I moosed off to the post office'

https://doi.org/10.1075/ncp.72.09olo

In (1) and (2), a verb is combined with the directional adverb *iväg* 'off' and a prepositional phrase headed by the preposition *till* 'to' denoting the GOAL of the motion. Hence this is a construction that can be called [VERB-*iväg-till*] (see Olofsson, 2014). The FIGURE is *Jag* 'I' in both of the examples and the GROUND is the complement of the prepositional phrase; *bussen* 'the bus' and *posten* 'the post office' respectively. In Swedish, which is a typical satellite-framed language, the verb is most commonly a manner of motion verb, such as the ones in (1–2). *Springa* 'run' is a well known and highly frequent verb, while *älga* 'to move in a moose-like manner' is known but is a low frequency verb. Both are, however, conventionalized to the extent that they are found in major Swedish dictionaries (e.g. SO 2009).

The manner of motion aspect of motion events has been extensively explored in typological research. Besides manner of motion, Talmy (2000, 2017b) proposes seven more semantic relations (see Section 4 in this paper) between a co-event and the motion event. These co-events, however, have not received as much attention (Talmy, 2017b). Let's look at the following examples.

(3) Emma susade iväg till skolan
PN whistle-PST off to school-DEF
'Emma whistled off to school'

(4) Jag skrattade iväg till stationen
1SG laugh-PST off to station-DEF
'I laughed off to the station'

In (3), the verb *susa* 'whistle' denotes a concurrent result that has a causal relation to the motion event; in this case the subject is moving at high speed causing a whistling sound.

The verb *skratta* 'laugh' in (4) is well established, but not in motion scenes. *Skratta* can be treated as concomitant to the motion act, i.e. the subject is laughing while moving.

This variation in co-events that can occur in satellite-framed languages is a neglected aspect of motion research, as Talmy puts it: "It would be valuable to examine other satellite-framed languages for additions or reductions in this range of relationships that a co-event can bear to a framing event" (Talmy, 2017b, p. 3).

In this paper, I will give an overview of co-events denoted by verbs used in Swedish motion constructions. This overview will mainly focus on co-event relations other than manner. However, since manner of motion verbs constitute a major proportion of the verbs used in Swedish motion expressions, this relationship will also be considered.

The paper is divided into five sections. In Section 2, I describe some of the fundamentals of the motion event in Swedish. In Section 3, these motion events are analyzed as constructions from a construction grammar approach. Based on

findings in large corpora, Section 4 shows examples of co-event types in Swedish motion expressions. Finally, in Section 5 I will give some concluding remarks and a summary of the paper.

2. Motion events in Swedish

There are several studies of the structure of Swedish motion expressions (e.g. Strömqvist and Ragnarsdóttir, 2004; Zlatev and David, 2003; Zlatev and Yangklang, 2004; Viberg, 2013a, 2013b), most notably in relation to typological research following Talmy's (1985, 2000) framework. An illustration of a motion event in Swedish and its fundamental semantic components is shown in Figure 1.

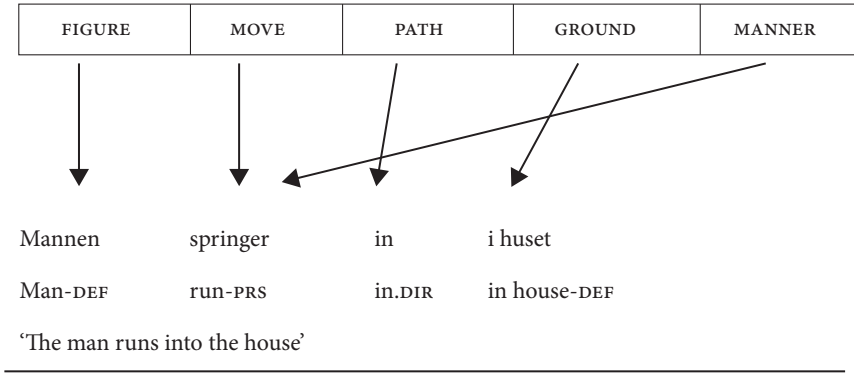


Figure 1. Motion event in Swedish (according to Viberg, 2013a)

In Figure 1, the [VERB-*in*-*i*] 'verb-into' construction is used, which is structurally similar to the construction in Examples (1–3) above, in the sense that it consists of a verb, a directional adverb and a prepositional phrase. *Mannen* is the FIGURE and *huset* is the GROUND, while the PATH is realized in the adverb *in* 'in', which is illustrated with the arrowed lines from the semantic components to the corresponding lexical units. Hence, the MOVE component and the MANNER event are coded in the verb *springa*.

Viberg (2013b), among others, makes a distinction between subject-centered motion, where the moving entity typically functions as the grammatical subject, as in (5a), and object-centered motion, where the moving entity typically functions as a grammatical object, as in (5b).[1]

1. This distinction roughly corresponds to that between intransitive motion and transitive caused motion (see Goldberg 1995).

(5) a. Jag går iväg till affären
1SG walk-PRS off to store-DEF
'I walk off to the store'
b. Jag kastar iväg bollen
1SG throw-PRS off ball-DEF
'I throw away the ball'

In (5a) the moving entity is the subject *jag* 'I', while in (5b) it is *bollen* 'the ball'.

Sometimes this distinction is made only by encyclopedic differences, as in (6).

(6) a. Jag drar runt på stan
1SG pull-PRS around on city-DEF
'I move around in the city'
b. Jag drar runt på vagnen
1SG pull-PRS around on wagon-DEF
'I push the wagon around'

Both examples in (6) contain similar lexical content, except for the last unit in each example. *Stan* 'the city' in (6a) is typically a place where one can move, while *vagnen* 'wagon' is typically something you push. Hence the subject-centered reading is found in (6a) and the object-centered reading in (6b). In this paper, I will mainly focus on subject-centered motion.[2]

Swedish makes a morphological distinction between directional and locative adverbs (Teleman et al., 1999). Directional adverbs typically consist of a single morpheme (*upp* 'up', *ner* 'down', *ut* 'out', *in* 'in', *hem* 'home', etc.), while locative adverbs are derivatives where the stem usually consists of a directional adverb and the suffix *-e* or *-a* (*uppe* 'up', *nere* 'down', *ute* 'outside', *inne* 'inside', *hemma* 'at home', etc.). This distinction is illustrated in (7).

(7) a. Siri gick *in* i rummet
PN walk-PST in-DIR in-LOC room-DEF
'Siri walked into the room'
b. Siri gick *in-ne* i rummet
PN walk-PST inside in-LOC room-DEF
'Siri walked in the room'

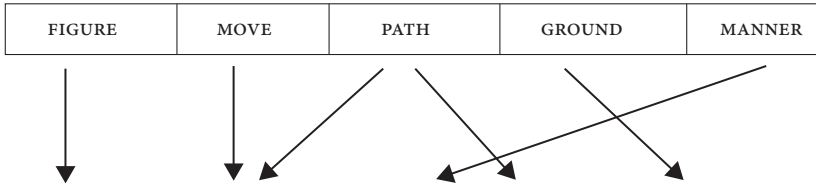
Swedish is a satellite language (see Talmy, 1985, 2000), thus directional adverbs are satellites used to describe *translocative* scenes, where the moving object shifts from one point to another (Talmy, 2000; Zlatev and David, 2003), as well as describing boundary-crossing scenes (cf. Slobin, 1996), such as the example in Figure 1. These ideas are further illustrated in (8):

2. For Swedish object-centered constructions, see Sjögreen's (2015) doctoral thesis on causative *bort* 'away' constructions.

(8) a. Siri gick in i huset
PN walk-PST in-DIR in-LOC house-DEF
'Siri walked into the house'
b. Siri gick till huset
PN walk-PST to house-DEF
'Siri walked to the house'
c. Siri gick i huset
PN walk-PST in-LOC house-DEF
'Siri walked in the house'

Both (8a) and (8b) are translocative, but only in (8a) is a boundary crossed; this is indicated by the directional adverb *in*. In (8a) the subject *Siri* is at one point outside the house and at the next inside the house, crossing a boundary when moving in. In (8b), the subject is also moving between two points but without crossing a boundary. In (8c) the subject moves within a specified area, which means that it is neither translocative nor boundary crossing.

The distinction between satellite-framed languages, such as Swedish, and verb-framed languages, such as Spanish, is mainly based on how the PATH is expressed. Let's consider the Spanish motion event illustrated in Figure 2.



El chico entra corriendo en la casa
boy enter run-PTCP in house
'The boy runs into the house'

Figure 2. Motion event in Spanish

This is roughly the Spanish counterpart of the expression in Figure 1. In a verb-framed language such as Spanish (2), the verb often expresses information about direction or path of motion, and manner can additionally be incorporated by a participle.[3]

3. Talmy (1985) also accounts for cases in which the FIGURE component is incorporated in the verb. This is very rare in Swedish, and only found with some weather verbs such as *regna* 'rain' in *Det regnar in genom fönstret* ('It is raining (in) through the window') and *snöa* 'snow' in *Det snöar ner på hustaken* ('It is snowing down on the rooftops').

However, there are a few verbs in Swedish that have direction and path embodied in their meaning, and that can be used to describe a translocative and border crossing scene without directional adverbs, as in (9).

(9) a. Kim passerade mållinjen
PN cross-PST finishing.line-DEF
'Kim crossed the finishing line'
b. Sandy lämnade rummet
PN leave-PST room-DEF
'Sandy left the room'

According to Özçalışkan (2004), verb-framed languages and satellite-framed languages have about the same number of PATH verbs. This means that Swedish does not necessarily have fewer such verbs than Spanish, for example; the difference is how common they are, that is, their frequency of use.

While previous research on Swedish motion events mainly concerns common, typical manner of motion verbs, less common verbs used in such events tend to be neglected. An example of such a less common motion expression is illustrated in Figure 3.

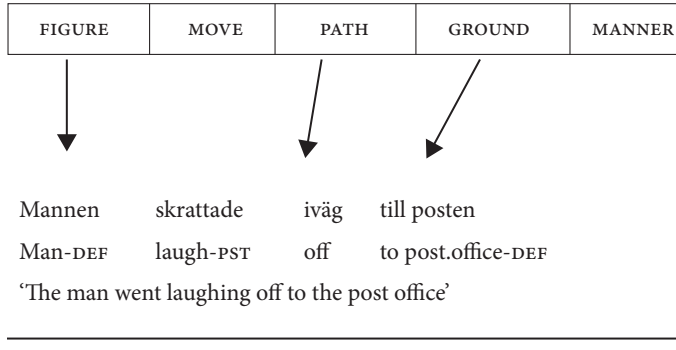


Figure 3. Motion event in Swedish with a rare verb

In Figure 3, we can see that the MOVE component cannot be assigned to the main verb, since *skratta* 'laugh' is not a motion verb. Hence, the MANNER component is also not expressed. This raises a couple of questions: how do we assign the MOVE component, if it isn't to the verb? And how do we capture the way the laughing activity relates to the motion event?

With regard to the first question, one appealing possibility is to analyze Swedish motion expressions, such as the ones above, as motion constructions (see Olofsson, 2014, 2018). As for the second question, the relationship between verbs and motion constructions can be explained by the co-events that the verbs bear when used in the constructions. Motion constructions will be treated in Section 3, while co-events will be further explained in Section 4.

3. Motion events as motion constructions

In construction grammar, linguistic expressions are analyzed as constructions, that is, as conventional form-meaning generalizations over actual utterances, where form concerns phonological, morphological, and syntactic properties, and meaning concerns semantic and pragmatic properties. From this perspective, language is seen as a (large) set of constructions, with varying degrees of complexity (e.g. Goldberg, 1995, 2006; Fried, 2015).

In construction grammar, there is no categorical distinction between lexicon and grammar. Instead, constructions cover all types of linguistic structures, from specific lexically filled constructions (e.g. words, idiomatic expressions) to fully abstract, general constructions (e.g. grammatical rules) and all intermediate levels in between. For instance, a motion construction can be captured at different levels of abstraction, as in (10):

(10) a. [VERB-ADVL]
b. [VERB-ADV-PP]
c. [VERB-*iväg*-PP] 'off'
d. [VERB-*iväg-till-NP*] 'off-to'
e. *springa iväg till bussen* 'run off to the bus'

By assuming motion events to be constructions, it is also natural to cover rare verb usage as well, as the properties of different constructions are not necessarily based on the properties of specific verbs, such as the verb *skratta* 'laugh' in Figure 3. Motion per se can be argued to be evoked by the construction instead of the specific verb (Goldberg, 1995);[4] hence the MOVE component in Figure 3 can be assigned to the syntactic construction, instead of to the verb.

In the light of this, one especially interesting aspect is that of productivity, in this case the possibility of using motion constructions with new verbs as well as with ordinary verbs with a new function (see Olofsson 2018).[5] Type frequency – the number of different lexical units used in a constructional slot – is often proposed to be a key component in productivity (Goldberg, 1995; Barðdal, 2008; Bybee, 2010), as well as hapax legomena, which refers to instances of a construction that only occur once in a large corpus (Baayen and Lieber, 1991).

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4. This could also be explained as a coercion effect using the Override Principle: "If a lexical item is semantically incompatible with its syntactic context, the meaning of the lexical item conforms to the meaning of the structure in which it is embedded" (Michaelis, 2005, p. 51).

5. There are other ways to investigate the relationship between verbs and syntactic constructions. Some researchers emphasize the attraction between verbs and constructions as measured by their frequency of use (Bybee, 2010; Stefanowitsch, 2013), while some also emphasize the semantic compatibility between verbs and constructions (cf. 'semantic coherence', Goldberg, 1995; 'semantic fit', Diessel, 2015).

By investigating productive uses of motion constructions, it is possible to get a systematic survey of verbs and groups of verbs that typically evoke a certain type of co-event (see Section 4 for more about co-events).

In the remainder of this paper, I will focus on double adverbial constructions (see Teleman et al., 1999), i.e. constructions with both a directional adverb and a PP, such as the [VERB–*iväg*–*till*] 'verb-off-to' construction shown in (1–3) or the [VERB-*in*-*i*] 'verb-into' construction shown in Figure 1.[6]

In Olofsson (2017), the [VERB-*iväg*-*till*] construction was compared with the [VERB-*till*] 'verb-to' construction, that is, a semantically similar construction without the adverb *iväg* 'off'. This article shows that highly frequent motion verbs tend to appear in constructions without the adverb while low frequency verbs tend to appear in constructions with the adverb, which, despite lower overall frequency, appears to be more productive.

Olofsson (2019) investigates some 17 double adverbial constructions and their occurrence in a large corpus. The study shows that there is a sizeable difference in both token and type frequency, as well as the amount of rare types. For instance, the [VERB-*runt*-*i*] 'verb-about-in' occurs with 225 different verbs even though the overall token frequency of the construction is only intermediate, while a construction such as [VERB-*ner*-*till*] 'verb-down-to' only occurs with 107 verbs even though the construction itself occurs more often. The former construction appears to be more productive than the latter.

Even though these 17 constructions only constitute a subset of all Swedish motion constructions, and it is therefore not possible to make statistically reliable generalizations, the tendency is towards goal-biased expressions (see Bourdin, 1996).

4. Co-event relations

According to Talmy (2017b), "[a] Motion situation consists of a Motion event per se and a co-event". The co-event brings additional semantic information to the fundamental components of the motion event (FIGURE, PATH, GROUND and the MOTION itself). This is illustrated in Figure 4, where the motion event is shown in the left bracket, and the co-event in the right bracket.

Co-events are typically conflated in the verb in Swedish motion constructions, as in other Germanic languages. Romance languages realize co-events in an

6. Whether the subject slot is considered an internal part of the construction or an external valency element is a matter of which kind of grammatical analysis one is aiming for. In this paper, I will not discuss this in detail, but I will treat motion constructions as verb phrase constructions (see Olofsson, 2014).

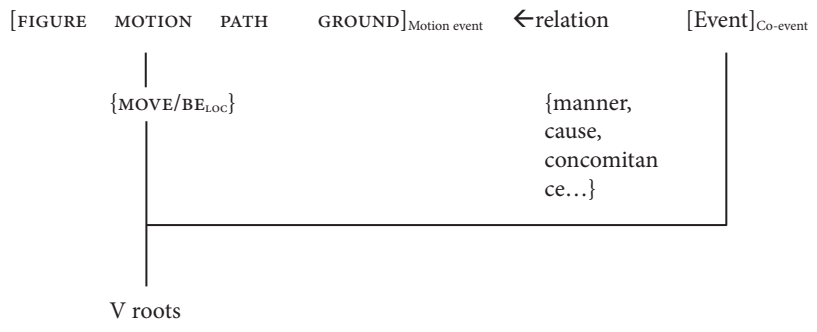
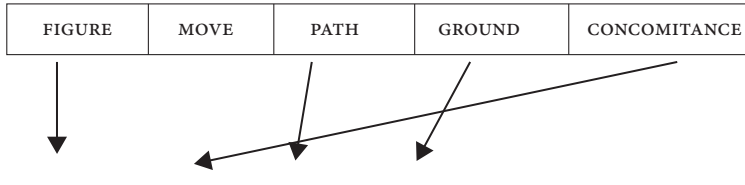


Figure 4. Co-event conflated in the motion verb (Talmy, 2000, p. 28)

adverbial complement instead (see Zlatev and Yangklang, 2004), as in the Spanish example in Figure 2 above.

Talmy (2000, 2017b) accounts for several co-events in English. They are sequenced with the motion event in the sense that some events occur before the motion event (e.g. precursion: *I ground the pepper into the soup*, where the grounding event precedes the motion event where the pepper moves into the soup), some are simultaneous (e.g. concomitance: *The hawk screeched across the sky*, where the flying and the screeching sound occur at the same time), and some happen after the motion event (e.g. subsequence: *They locked the prisoner into his cell*, where the motion event precedes the locking event).[7]

Co-events can be incorporated into the schematic analysis used in Figures 1–3 above, as shown in Figure 5.



Mannen	skrattade	iväg	till posten
Man-DEF	laugh-PST	off	to post.office-DEF

'The man went laughing off to the post office'

Figure 5. Motion event in Swedish with a concomitance verb

7. Talmy (2017a) also describes three additional co-event types for languages other than English. For instance, reverse enablement, which is possible in German and Swedish, but not in English. **I tied the sack open*.

In the following subsections, some of the most relevant co-events will be covered. This overview of co-events in Swedish motion constructions is mainly based on empirical data from the corpus *Bloggmix* 2012–2013 (http://spraakbanken.gu.se/korp), which is a selection from Swedish blogs collected between 2012 and 2013. The corpus consists of 133,859,971 tokens, 8,458,280 sentences (see Olofsson, 2014, 2017, 2019). Some examples are also taken from the Google search engine.

4.1 Manner of motion

The first co-event to be examined is manner of motion (Talmy, 1985, 2000; Slobin, 2004; Goldberg, 1995; Israel, 1996). It refers to the manner in which an event of basic motion is performed. There is a direct connection between manner and the motion event, as with the verb *springa* 'run' in (11). The co-event can be described as a subordinate clause, as in [WITH-THE-MANNER [clause]] shown in (11b).

(11) a. Jag sprang in i huset
1SG run-PST in.DIR in.LOC house-DEF
'I ran into the house'
b. [I MOVE into the house] WITH-THE-MANNER-OF [I ran]

According to Slobin, manner of motion constitutes an "ill-defined set of dimensions that modulate motion" (Slobin (2004, p. 255), which includes motor pattern (*hoppa* 'jump', *skutta* 'leap'), speed (the difference between *gå* 'walk', *lunka* 'trot' and *springa* 'run'), attitude (*flanera* 'stroll' compared to *gå* 'walk'), posture (*krypa* 'crawl'), force (*klampa* 'tramp'), and so on.

Manner of motion verbs in Swedish have already been investigated extensively (e.g. Andersson, 1997; Viberg, 2013a, 2013b). International research on the manner of motion is also well established (see Talmy, 2017b). In this section, I will focus on animal based verbs (e.g. *älga* 'to moose', *snigla* 'to snail', *hjorta* 'to deer', *groda* 'to frog', *krabba* 'to crab'). They constitute a group of mostly novel manner verbs that have not had as much attention as other manner of motion verbs. One such animal verb is shown in (12).

(12) a. Jag krabbar iväg ut på planen
1SG crab-PRS off out on field-DEF
'I crabed off out on the field'
b. [I MOVE off out on the field] WITH-THE-MANNER-OF [I crab]

According to a major Swedish dictionary (SO 2009), there are at least four animal verbs with a conventionalized manner of motion meaning (*älga* 'to moose, *åla* 'to eel', *orma* 'to snake', *snigla* 'to snail). However, novel animal verbs were observed in

Olofsson (2014) as examples of productive uses of the [VERB-*iväg*-PP] 'verb-off-pp' construction.

There are other animal-related verbs such as *galoppera* 'gallop', *skritta* 'ride a horse at walking pace'. They focus on some characteristic manner of motion of a specific animal, a horse in this case. These verbs, however, can also be used with an instrument meaning. They then denote the way in which the mover is using a horse to move, in the sense that the rider is assumed to be in control and hence decides the pace or manner the horse should move in. The animal verbs observed in this paper are typically used for human movers, not for the movement of the animal in question.[8]

To some extent, the use of animal verbs in motion events is possible in other Germanic languages as well. For instance, the verb *krabba* 'to crab' is found with a motion meaning in major dictionaries for languages such as Norwegian, Danish, English, and German.

4.2 Concurrent result

The next co-event is *concurrent result*. It is defined by Talmy (2000, p. 46) as an event that "results from […] the main Motion event, and would not otherwise occur" (cf. also 'result' in Goldberg, 1995 and Israel, 1996). This co-event is typically represented by sound denoting verbs (e.g. *dundra* 'rumble', *fräsa* 'hiss', *klafsa* 'squelch', *panga* 'bang', *plaska* 'splash', *plumsa* 'plop', *susa* 'whistle', *vina* 'whine'), as in the following examples.

(13) a. Jag skramlar iväg till Affes ateljé
1SG rattle-PRS off to PN-GEN studio
'I rattled off to Affe's studio'
b. [I MOVE off to Affe's studio] WITH-THE-RESULT-OF [I rattle]

In (13), the FIGURE moves in such a way as to cause a rattling sound.

A related group consists of the collision verbs (e.g. *bumpa* 'bump', *dunka* 'thump', *krascha* 'crash', *kraschlanda* 'crashland', *krocka* 'crash', *kvadda* 'crash', *stöta* 'knock', *törna* 'bump'; cf. 'Verbs of Contact by Impact' in Levin, 1993). While sound-denoting verbs can be used in a variety of motion constructions in Swedish, collision verbs are exclusively used with the [VERB-*in*-*i*] 'verb-into' construction, as in (14).

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8. This group of verbs should not be confused with the 'Verbs of Sounds Made by Animals' reported by Levin (1993, p. 212). According to her, one property of this verb class for English is that it cannot be used in a directional phrase construction, as in **The duck quacked down the path*. This is also quite rare in Swedish, but not impossible, as shown by *Leksakshästen gnäggade iväg ganska bra* ('The toy horse neighed off quite well') or *Katten jamade runt på vägen* ('The cat miaowed around on the road').

(14) a. Han kraschade in i staketet
3SG crash-PST in-DIR in-LOC fence-DEF
'He crashed into the fence'
b. [He MOVE into the fence] WITH-THE-RESULT-OF [He crashed]

4.3 Concomitance

The next co-event is *concomitance*. It "co-occurs with the main Motion event and is an activity that the Figure of the Motion event additionally exhibits" (Talmy 2000, p. 46). This co-event has also been observed by Israel (1996) as an 'incidental activity' and by Beliën (2008, p. 200) as something that "designate[s an] activit[y …] that can be carried out while moving". It is illustrated in (15).

(15) a. Jag hostade iväg till apoteket
1SG cough-PST off to pharmacy-DEF
'I coughed off to the pharmacy'
b. [I MOVE off to the pharmacy] WITH-THE-CONCOMITANCE [I cough]

As in (15) with verb *hosta* 'cough', this co-event is often represented by sound-denoting communication verbs (e.g. *skratta* 'laugh', *vissla* 'whistle', *knorra* 'grumble', *mumla* 'mumble', *vråla* 'roar').

One major difference between the verbs in the preceding section, denoting concurrent result, and the sound verbs, denoting a concomitance activity, is that there is a causal relationship between the former and the motion event. This relationship does not necessarily hold for the latter (cf. the 'causal relation hypothesis' in Goldberg, 1995).

One interesting type of concomitance concerns what we may call party verbs (e.g. *parta* 'party', *slarva* 'be on a spree', *kalasa* 'feast', *svira* 'binge'), which are illustrated in (16–17).

(16) a. Vi partajade iväg till Kajskjul 8
1PL party-PST off to Kajskjul 8
'We partied off to Kajskjul 8'
b. [We MOVE off to Kajskjul 8] WITH-THE-CONCOMITANCE [We partied]

(17) a. Vi ska kröka iväg till Femman
1PL shall booze-INF off to PN
'We shall booze off to Femman'
b. [We MOVE off to Femman] WITH-THE-CONCOMITANCE [We boozed]

The verbs *partaja* 'party' (16), *kröka* 'to booze' (17) assume a social event as well as intoxication. Used in motion constructions these verbs describe what the movers

are doing while they are moving to the nightclubs or pubs. They do not evoke any motion in their inherent semantics. Concerning the sequencing of motion event and co-event, such cases are more complex than a straight co-occurrence. The accompanying activity typically both precedes the motion event (the party/drinking starts at one place, the SOURCE) and co-occurs with it (the subjects continue to party/drink while moving to another place, the GOAL). Most often the activity also goes on after the motion event (the subjects continue to party/drink at the GOAL).

There are also manner verbs that show concomitance. They are not in a causal relationship with movement, as illustrated in (18).

(18) a. Siri flaxade iväg till affären
PN flutter-PST off to store-DEF
'Siri fluttered off to the store'
b. [Siri move off to the store] WITH-THE-CONCOMITANCE [Siri flutter]

Flaxa 'flutter' (or 'flap') is a type of bodily motion, which means that the arms are moving. In contrast to bird-like subjects, human subjects would not normally manage to move from one point to another in space by fluttering. Hence, these manner verbs, indicating a motion that does not drive the movement, can be interpreted as a concomitant co-event rather than a manner of motion co-event.

4.4 Predicative

The next co-event type concerns something that can be called *predicative*. It describes some characteristic or state of mind of the moving subject. That is, the verb describes, not the manner in which the FIGURE walks, but rather the state of mind or some attribute of the walker. Let's consider the examples in (19–20).

(19) a. Han flummade omkring i parken
3SG walk.hazy-PST around in park-DEF
'He moved hazily around in the park'
b. [He MOVE around in the park] WITH-THE-PREDICATIVE [He was hazy/mixed-up]

(20) a. Hon coolar iväg till stan
3SG cool-PST off to city
'She cools off to the city'
b. [She MOVE off to the city] WITH-THE-PREDICATIVE [She is cool]

The adjectives *flummig* 'hazy/mixed-up' and *cool*, used as verbs in (19–20), do not denote different ways of moving. Rather, they describe the attitude of the moving subject, as shown in the analyses in (19b) and (20b).

Another example of the predicative is found with body description verbs (e.g. *knubba* 'to chubby', *plufsa* 'to flabby', *spänsta* 'to springy', *feta* 'to fat'). As with *cool* above, these verbs are typically based on adjectives that describe someone's body features.[9]

(21) a. Han knubbade iväg till pizzerian
3SG chubby-PST off to pizza.house-DEF
'He chubbied off to the pizza house'
b. [He MOVE off to the pizza house] WITH-THE-PREDICATIVE [He is chubby]

(22) a. Jag ska plufsa iväg till närmaste sci-fi rehab
1sg will flabby-INF off to nearest sci-fi rehab
'I will flabby off to the nearest sci-fi rehab'
b. [I MOVE off to the nearest sci-fi rehab] WITH-THE-PREDICATIVE [I am flabby]

The examples in (21–22) are not, however, clear-cut cases of a predicative reading. The verbs *knubba* 'to chubby' and *plufsa* 'to flabby' might also be understood as manner of motion verbs, meaning something like 'moving in the manner of someone who is chubby/flabby'. On the other side, verbs of this type are not typical manner of motion verbs.

A type where the co-event can be interpreted as either predicative or concomitant is expressed by what we may call joke verbs (e.g. *skoja* 'joke/kid', *busa* 'play', *spexa* 'horse around', *clowna* 'to clown'). These verbs are mainly used in the [VERB-*runt-på*] 'verb-about on' and [VERB-*runt-i*] 'verb-about in' constructions. Rarely do they occur in any other construction (see Olofsson, 2019). Alternative analyses for these constructions are shown in (23b) and (23c). The former shows a predicative reading, i.e. the mover has a joking mindset or attitude, and the latter shows a concomitant reading, i.e. the mover is actually joking while moving. Which one of the two possible interpretations is considered probably depends on the speaker situation.

(23) a. Siri skojade runt i centrum
PN joke-PST around in city.center'
'Siri joked around in the city center'
b. [Siri MOVE around in the city center] WITH-THE-PREDICATIVE [Siri is in a joking mode]
c. [Siri MOVE around in the city center] WITH-THE-CONCOMITANCE [Siri is joking]

9. It is important to point out that the forms in question are analyzed as verbs since they have verb inflection and are used in the verb slot of motion constructions.

Another example of a joke verb is *clowna* 'to clown', as in (24). Its predicative reading in (24b) indicates that the subject is acting as a clown in some kind of figurative sense. Its concomitant reading in (24c) indicates that the subject is performing tricks and other activities that a clown normally does.

(24) a. Cerci clownade runt på planen
PN clown-PST around on field-DEF
'Cerci clowned around on the field'
b. [Cerci MOVE around on the field] WITH-THE-PREDICATIVE [Cerci is a clown]
c. [Cerci MOVE around on the field] WITH-THE-CONCOMITANCE [Cerci is acting as a clown]

4.5 Modality

The next co-event concerns modality. For this type of motion construction, the verb slot is filled with an auxiliary verb (e.g. *ska* 'will/shall', *vill* 'want', *måste* 'must') that expresses possibility, ability, permission, desire and obligation (cf. Andersson, 2007). These cases show a "modal auxiliary followed not by a verb of motion but by an adverbial of direction, where a verb is not naturally supplied by the immediate context" (Kjellmer, 2002, p. 347). For Swedish, this has been observed by Teleman et al. (1999), Nikanne and Östman (2006), and others.

In corpus studies (Olofsson, 2014, 2019), I have shown that the auxiliary verb *ska* 'shall' is one of the most common verbs in the verb slot of Swedish motion constructions. This is, however, not the only auxiliary verb used in this way. A variety of verbs can be used in various constructions, but not in [VERB-*runt-i*], [VERB-*runt-på*] or [VERB-*omkring*]. Examples (25–26) consist of the auxiliary verbs *måste* 'must' and *vill* 'want'.

(25) a. Vi måste iväg till Gefle
1PL must off to Gefle
'We must go off to Gefle'
b. WITH-THE-OBLIGATION [We must (go there)] [We MOVE off to Gefle][10]

(26) a. Siri vill till puben
PN want-PRS to pub-DEF
'Siri wants to go to the pub'
b. WITH-THE-DESIRE [Siri wants to (go there)] [Siri MOVE to the pub]

10. In this analysis the co-event is placed before the motion event to indicate that we do not know if the motion event actually has taken or will take place.

To construct a motion event without a main verb is, to some extent, also possible in other Germanic languages, such as Norwegian, Danish, German, Dutch, and English (cf. Vikner, 1988; Kjellmer, 2002).

Since modality is a co-event that precedes the motion event, it could possibly be interpreted as some kind of enablement (modal enablement) or precursion.

5. Final remarks

In this paper, I have identified a variety of co-event relations denoted by verbs used in Swedish motion constructions. Among the relations are concurrent result, concomitance, predicative, and modality. There are additional co-event relations that have not been elaborated in this paper, such as effort (*Han krånglade omkring i parken* 'He floundered around in the park'), experience (*Jag måste panika iväg till bussen* 'I must panic off to the bus'), perception (*Nu ska jag kika iväg på ett möte* 'Now I'll peep off to a meeting'), purpose (*Siri frågar runt i olika affärer* 'Siri moves around between different shops to ask questions'), circumstance (*Han chansade iväg till affären* 'He took a chance going off to the store'), and means (*Siri cyklade till skolan* 'Siri biked to school').

Even though co-events other than manner are often neglected in the research on motion event typology, some of these co-events are not new. Both concomitance and concurrent result have already been observed and described (e.g. Goldberg, 1995; Israel, 1996; Talmy, 2000; *Beliën*, 2008; Olofsson, 2014). However, as motion co-events, predicative (*Han knubbade iväg till pizzerian* 'He chubby off to the pizza house') and modality (*Han ska iväg till stan* 'He shall (go) off to', *Han måste iväg till stan* 'He must (go) off to the city') appear to be new.

It is important to point out that the most common verb type used in Swedish motion constructions is manner of motion. Most co-event types illustrated in this paper are somewhat less common in usage. However, usage of co-event types show the flexible nature of a language, in this case Swedish. They also show that speakers of Swedish can use motion constructions productively, that is, with new verbs as well as with established verbs with a new function. For instance, the animal manner of motion verbs and the sound-denoting concurrent result verbs are mostly novel. On the other hand, many of the concomitant verbs, a few of the predicative verbs and all of the auxiliary verbs are established in Swedish. Hence they are used in a variety of constructions besides motion.

It is possible that novel co-event types are typical of Germanic languages, or even of satellite languages in general, since the grammatical structure in these languages can place motion event information outside of the verb. Hence, there is less pressure and expectation on the verb to carry such information than in verb-framed languages.

One interesting question would be to investigate to what extent these co-events are used in non-Germanic languages, and in the long run, to see to what extent there is a difference in the productivity of motion constructions.

Abbreviations

The glossing analysis is based on *The Leipzig Glossing Rules*. The following abbrevations are used

AUX	auxiliary	PL	plural
DEF	definite	1	first person
INF	infinitive	2	second person
PRS	present tense	3	third person
PST	past tense	DIR	direction
PN	proper name	LOC	locative
SG	singular	GEN	genitive

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CHAPTER 10

The description of transitive directed motion in Lakhota (Siouan)

Rainer Osswald[1] and Robert D. Van Valin, Jr.[1,2]
[1]Heinrich-Heine-Universität Düsseldorf / [2]The State University of New York at Buffalo

Siouan languages such as Lakhota provide an interesting case for the study of transitive directed motion descriptions because of their rich inventory of deictic motion verbs and instrumental (causative) affixes. The goal of this article is to show in detail how the different meaning components involved in such descriptions are distributed over the lexicon, the morphology, and the syntax of Lakhota. In particular, Lakhota supports a multi-verb construction for expressing transitive directed motion that consists of a transitivized deictic motion verb used as the main verb, which encodes caused motion or accompanied motion, and a dependent verb that describes the way in which the actor sets or keeps the undergoer in motion and the manner in which the undergoer moves.

Keywords: causation, deictic motion, Lakhota, multi-verb construction, Siouan, transitive motion

1. Introduction

The typology of motion expressions has drawn considerable interest during the past two decades, not least inspired by Talmy's well-known distinction between verb-framed and satellite-framed languages. The main focus of these investigations has been on intransitive motion expressions and on the mophosyntactic realization of manner of motion and path (including shape, direction, and deixis). The present article is concerned with transitive directed motion scenarios. Transitive, or multi-participant, motion is here understood as involving an actor that acts on an undergoer which changes its location as a consequence of the actor's activity. This characterization is intended to cover all kinds of transitive motion scenarios as lexicalized by the English verbs *bring, carry, throw, pull*, and (transitive) *roll*, among others. As in the intransitive case, all of these verbs can occur with directional expressions.

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The main topic of this article is the way how transitive motion scenarios are expressed in the Siouan language Lakhota and how the different meaning components involved in such expressions are distributed over the lexicon and the morphosyntax of that language. The article is organized as follows. Section 2 gives a brief overview of the various semantic parameters involved in transitive directed motion scenarios. Section 3 provides a short sketch of the relevant grammatical properties of Lakhota. Section 4 is concerned with the encoding of transitive directed motion in Lakhota, which makes essential use of transitivized deictic motion verbs. Section 5 introduces the system of instrumental prefixes, which play an important role for the specification of manner and force. Section 6 discusses the interplay of the various morphosyntactic components in the interpretation of transitive motion expressions on the basis of a small field study. Section 7 concludes with a few remarks on typological aspects of the Lakhota constructions discussed in this article.

2. Semantic parameters of transitive directed motion

Transitive motion comes with a wider range of semantic parameters than single-participant motion since the way in which the actor brings about the motion of the undergoer can vary in several aspects. Transport, for instance, means that the actor has control over the undergoer, and moves, and thereby causes the undergoer to move with him or her. The transport verb *carry* differs from *bring* in that it specifies the manner of how the actor controls the undergoer. The verb *pull*, in contrast to *carry*, means that the actor causes the undergoer to move by acting forcefully on it in a specific manner whereas motion of the actor is not necessarily implied in this case. Causativized motion verbs such as (transitive) *roll*, by comparison, encode the manner of motion of the undergoer and the unspecified causation of this motion by the actor. The verb *throw*, finally, specifies an activity by which the actor initiates the movement of the undergoer.

A useful distinction with respect to caused motion, and causation scenarios in general, is that between *extended causation* and *onset causation*, as illustrated respectively by the examples in (1) taken from Talmy (2000: 473).

(1) a. I pushed the box across the ice (of the frozen pond).
[I kept it in motion, going along with it.]
b. I pushed the box (off) across the ice.
[I set it in motion and stayed put.]

The sentence in (1a) describes an extended, or *extent-durational* causation scenario in which the actor continuously applies force to the undergoer that keeps the latter in motion. This characterization does not *per se* imply that the actor moves along with the undergoer since the actor could stay put and, for instance, use a long stick

to continuously push the box forward. Hence, as already noted, extent-durational caused motion may go along with accompanied motion but does not need to. An onset causation scenario as expressed by the sentence in (1b) consists of a causing event that is *point-durational*, in Talmy's terms, here a single push, which in turn starts off an *autonomous* event, here the movement of box across the ice. Note that the interpretation of (1a) does not exclude the case that the box is moved along by successive punctual pushes, maybe interleaved with extent-durational ones, irrespective of the actor's moving along with the box.

Another of Talmy's distinctions that applies to caused motion scenarios is the one between *continuous* and *discontinuous causative chains*. The difference is exemplified by the examples in (2); cf. Talmy (2000: 473/503).

(2) a. I slid the plate across the table by pushing on it with a stick.
b. I made the plate slide across the table by throwing a stick at it.

The causative situation described in (2b) is considered as discontinuous since the flying of the stick through the air and its hitting the plate, which starts off the motion of the latter, are autonomous in that they take place "without accompanying causation". Talmy suggests that the presence of an autonomous event within the causal chain as in (2b) might correlate with the use of the periphrastic *make* construction. In (2a), by comparison, the setting or keeping in motion of the undergoer is "accompanied" by causation, and is expressed by a causativized verb form *slide*.

In his classical study on the perception of causation, Michotte (1954) introduces a number of distinctions that are relevant for the characterization of transport and caused motion scenarios. At top level, he distinguishes between *lancement* ('launching') and *entraînement* ('entrainment'). Launching means that the actor initiates the motion of the undergoer which then moves on its own, while entrainment requires the actor to move along with the undergoer thereby keeping the latter in motion. This distinction corresponds basically to the difference between onset and extended causation mentioned above. There are different ways of launching an object. On the one hand, there is the transfer of kinetic energy by impact (referred to as *lancement par percussion* 'launching-by-striking' by Michotte). Events of this type can often be described by verbs expressing an (agentive or non-agentive) impact by contact such as *kick*, as in the sentence in (3).

(3) Peter kicked the ball over the fence.

Verbs like *hit, kick, knock*, and *slam* in transitive directed motion constructions such as (3) have been characterized as verbs denoting an "instantaneous application of force causing a ballistic motion" (Pinker 1989: 64). Levin (1993: Section 17.1), following Pinker, subsumes them under the class of 'throw' verbs, on a par with *throw, toss, hurl*, and *fling*. However, there is a difference between striking and throwing types of caused motion events concerning the application of force and

its effect. While striking means impact, throwing means release after acceleration. Hence, the part of a throwing event that goes on before the release of the object can be seen as an entrainment of the latter by the thrower. Michotte (1954) speaks in this case of *lancement par expulsion* ('launching-by-expulsion').

3. General properties of Lakhota

The list of grammatical properties of Lakhota given in this section is necessarily rather selective; see Rood and Taylor (1996), Ullrich (2011), and especially Ullrich (2016) for comprehensive presentations of Lakhota. The Lakhota examples presented in the following are taken from the New Lakota Dictionary (NLD; Ullrich 2011), if not otherwise indicated.

3.1 Verbal morphology

Lakhota is a left-branching, verb-final, head-marking language. In particular, arguments are marked by pronominal affixes at the main verb of the clause (cf. Van Valin 2013). Third person singular subjects are never marked overtly, and third person plural objects are only marked (by *wičha*) if they denote animate beings.

An important grammatical distinction of verbs in Lakhota is that between "neutral" (or "stative") predicates and "active" predicates, which is manifested in different morphophonological and morphosyntactic properties. The two classes differ most prominently in the distinct pronominal affixes they take to indicate first person singular and second person subjects. That is, the pronominal marking on the verbal head follows a split-intransitive pattern (Merlan 1985). The neutral paradigm marks first and second person singular by the affixes *ma-* and *ni-*, respectively (4a), while the (regular) active paradigm uses *wa-* and *ya-* instead (4b). The active paradigm and the neutral paradigm also apply respectively to the subject and the object of active transitive verbs (4c).[1]

(4) a. *Ma-/Ni-čháŋ~čhaŋ.*
1SG.U-/2SG.U-tremble~REDUP
'I/You trembled.'

b. *Wa-/Ya-lówaŋ.*
1SG.A-/2SG.A-sing
'I/You sang.'

1. Following Van Valin (1985), the pronominal markings are glossed by 'A' for 'Actor' and 'U' for 'Undergoer', respectively.

c. *A⟨má-ya⟩pȟe.*
⟨1SG.U-2SG.A⟩hit
'You hit me.'

There is a fairly close correlation between verbs to which the active system applies and verbs that denote actions. This is why grammars of Lakhota often draw a distinction between neutral/stative and active verbs. Note that this semantic distinction does not completely match the pronominal paradigms (e.g. Mithun 1991: 514–518). For instance, *ȟpáyA* ('lie, be lying') and *nawízi* ('be jealous, envious') follow the active paradigm while *hiŋȟpáyA* ('fall (off/down)') and *čékA* ('stagger, stumble, reel') require the neutral paradigm.

The capital *A* (or *Aŋ*) in the citation forms indicates a so-called A(blaut)-word, whose final vowel can undergo ablaut. Depending on the context, the vowel alternates between *a(ŋ), e* and *iŋ*. *E*-ablaut is obligatory if the *A*-word occurs (without suffix) at the end of the sentence, which is often the case for the main verb in a declarative sentence. Moreover, *e*-ablaut is triggered by various enclitics, auxiliaries and relativizers, all of which immediately follow the *A*-word. Another context in which a verb is subject to *e*-ablaut is the non-final, dependent verb position in a purposive construction, which is briefly discussed in Section 3.2. The *iŋ*-ablaut occurs before certain conjunctions, among others.

Basically all Siouan languages have a cliticized auxiliary verb that expresses causation (Rankin et al. 2015).[2] In Lakhota, the enclitical causative auxiliary is *-yA*.[3] It triggers *e*-ablaut and *truncation* on the verbs it attaches to (Ullrich 2016: 66). Truncation is a morphophonological reduction in which the final vowel is dropped under certain conditions if it follows an obstruent, which in turn is subject to further modification. For example, when *-yA* attaches to the intransitive verbs *otkÁ* ('hang'), *sápA* ('be black') and *kakížA* ('suffer'), the resulting causative verbs are *otkéyA* ('hang sth'), *sabyÁ* ('blacken sth') and *kakíšyA* ('make sb suffer'), respectively, with *sapA* truncated to *sab* and *kakižA* truncated to *kakíš*. Like the foregoing examples, most of the verbs that take causative *-yA* belong to the class of neutral/stative verbs. Active verbs are mostly causativized by adding the auxiliary *-khiyA*, which indicates inducive causation. For instance, *máni* ('walk') becomes *mánikhiyA* ('make/let sb walk'). Some of the active verbs take *-ya* however. An example is *kiksúyA* ('remember'), which allows the causative *kiksúyeyA* ('remind, cause to remember'). The members of the latter class of verbs seem to describe non-intentional activities, in general.

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2. Hidatsa seems to be the only Siouan language in which the causative verb can also occur independently, with the meaning 'do, make, work'. The Catawban correlate of the Siouan causative auxiliaries is a full verb; see Rankin et al. (2015) for further details.

3. Note that the classification of the respective lexical element as an auxiliary, clitic, or affix is a rather controversial task; cf. Rankin et al. (2002: Section 4).

The so-called *instrumental prefixes* provide a second way of forming transitive causative verbs in Siouan languages. The examples in (5) illustrate the use of the prefixes *ka-* ('by striking') and *wa-* ('by cutting') in Lakhota, attached to the stative roots *-blečA* ('be shattered') and *ksÁ* ('be separated'), respectively.

(5) a. *Žaŋžáŋ kiŋ ka-bléče.*
glass DEF by.striking-be.shattered
'(S)he broke the glass.'
b. *Míla uŋ wa-ksé.*
knife with by.cutting-be.separated
'(S)he cut it with a knife.'

As indicated by the respective glosses, instrumental prefixes encode a certain way of acting on someone or something. That is, irrespective of being traditionally called "instrumental", the prefixes do not primarily encode an instrument but an activity. This analysis can be justified on etymological grounds since there are good reasons to assume that the instrumental prefixes in Siouan languages historically derive from verbal roots (cf. Rankin et al. 2015). Moreover, the presence of *uŋ* ('with, using') in Example (5b) shows that the prefixes do not function as instrumental applicative affixes. An overview of the different instrumental prefixes in Lakhota is given in Section 5.

3.2 Multi-verb constructions

Lakhota has a number of constructions in which the main verb is preceded by one or more dependent verb forms. Here, 'dependent' means that personal markings occur on the main verb only, in general, and that the dependent forms show certain morphophonemic properties. The multi-verb constructions in Lakhota include lexical and syntactic cases. The following overview focuses on mono-clausal constructions that play a role in the expression of (transitive) directed motion.

A general distinction can be drawn between multi-verb constructions in which the dependent verb is semantically governed by the main verb and those where the semantic relation between the verbs is introduced by the construction (or the context or world knowledge). The first class comprises various kinds of modal and control verbs in the position of the main verb (e.g., correlates of English *try to, pretend to, be able to*). The dependent expression serves as a semantic argument in this case. Lakhota has a number of lexeme-triggered constructions of this type, both on the syntactic and the morphological level (cf. de Reuse 2006). An example of the second class of constructions is the *purposive construction* (cf. Ullrich 2018: Section 10.2), in which the dependent verb describes the purpose of the activity denoted by the main verb, as illustrated by the examples in (6).

(6) a. *Nuŋwé – yà-pi.*
swim – go-PL
'They went to swim.'
b. *Wól – ìyotake.*
eat – sit.down
'(S)he sat down to eat'

In this construction, the stress on the main verb is reduced and the dependent verb undergoes *e*-ablaut (*nuŋwé* < *nuŋwÁŋ*) and truncation (*wól* < *wótA*), if possible. Moreover, subject markings occur on the main verb only.

For the topic of the present article, the following type of multi-verb construction is the most relevant one. As in the purposive construction, subject markings occur on the main verb and the dependent verb undergoes truncation. In contrast to the previous construction, however, the dependent verb does not ablaut and the main verb maintains independent stress. Moreover, more than one dependent verb is possible (see (10)). An example of this construction that directly contrasts with (6a) is *Nuŋwáŋ yápi*, which means 'they swam away/were swimming away/advanced away swimming'. In this example, the dependent verb specifies the manner of the deictic motion expressed by the main verb. The morphophonemic and morphosyntactic properties of the construction in question are summarized in (7) and (8).

(7) a. V_{dep} and V_{head} have independent stress;
b. V_{dep} undergoes truncation, if possible;
c. V_{dep} does not ablaut (if it cannot be truncated);

(8) a. V_{dep} and V_{head} share the same subject, which is marked on V_{head};
b. object marking is on V_{head} if V_{head} is transitive;
c. object marking on intransitive V_{head} is possible (if V_{dep} is transitive).

Property (8c) is illustrated by the example in (9a), in which the animate plural object marker *wičha* is not on the transitive verb *waŋyáŋg* (< *waŋyáŋkA*) but on the intransitive verb *yuŋkÁ* ('lie'). Marking on the transitive verb as in (9b) is also possible without any apparent difference in meaning.

(9) a. *Waŋyáŋg wičhá-yuŋke.*
watch 3PL.U.ANIM-lie
'(S)he lay watching them.'
b. *Waŋ⟨wičha⟩yaŋg yuŋké.*
⟨3PL.U.ANIM⟩watch lie

The semantic implications of the described construction can be roughly characterized as follows, in line with the data and analyses in Ullrich (2011, 2018) and de Reuse (2006): The different verbs in the construction denote largely simultaneous

or overlapping subevents of a single complex event. Consider the example in (10), which shows a construction with more than one dependent verb.[4]

(10) *Yu-pémni* *yu-ksá* *ičú.*
by.hand-be.twisted by.pulling-be.separated take
'Giving it a twist and pulling it off, he took it.'

While the three events described by the verbs in the example, the twisting, the pulling off, and the taking, happen at about the same time, their exact temporal alignment is not completely determined by the construction. The twisting is most probably not fully cotemporal with the taking and to which extent the twisting is still going on during the pulling off is not so clear either. Crucially, however, the events are part of and together constitute a unitary event, namely the one denoted by the overall construction. In the following, we refer to this construction as the *simultaneous event* (SimEvent) *construction*, even if the components are not fully aligned. Multi-verb constructions which, due to their very syntactic form, denote unitary events have the *Macro-Event Property* in the sense of Bohnemeyer and Van Valin (2017) (see also Bohnemeyer et al. 2007).

As to be expected from the given semantic characterization, the SimEvent construction is not used for expressing strictly sequential events. In fact, Lakhota has a fairly rich set of conjunctions for expressing 'and then', 'and so', etc. It is hence not surprising that a description of two consecutive events like the one in (11) makes use of a syndetic construction.

(11) *Wagméza kiŋ uŋǧé špaŋyáŋ-pi na yúta-pi.*
corn DEF part.of cook-PL CONJ eat-PL
'They cooked and ate some of the corn.'

In serializing (and converb) languages, "cook-and-eat" scenarios as described in (11) are often expressed without an explicit conjunction. For instance, in his study of verb serialization in Èdó (Niger-Congo), Stewart (2001) identifies a "consequential" serial verb construction, which is exemplified in (12).

(12) *Òzó lé èvbàré ré.* (Èdó)
Ozo cook food eat
'Ozo cooked the food and ate it.'

4. The example is an extract from the tale 'The Stingy Hunter' (Deloria 1932), in which the main protagonist pulls off the sting of giant sleeping mosquito.

Stewart argues that the consequential construction describes a single, complex event; in other words, the construction has the Macro-Event Property.[5] Further examples of sequential event descriptions that have the Macro-Event Property are given in Bohnemeyer and Van Valin (2017). Lakhota, by comparison, seems to lack such a construction.

4. The expression of (transitive) directed motion in Lakhota

4.1 Deictic motion verbs (= verbs of coming and going)

Lakhota shares with most other Siouan languages a system of four morphologically simple deictic motion verbs (Taylor 1976). These four verbs can be cross-classified along two dimensions: whether they express movement toward or away from the speaker (or, more generally, the deictic center of the discourse) and whether they express non-completed movement or the completion of the movement, i.e., the arrival at the respective location. The four stems in Lakhota are:

(13) *ú* toward here/the speaker/the deictic center
yÁ toward there/a place away from {the speaker/the deictic center}
hí arrival here/at {the speaker/the deictic center}
í arrival there/at a place away from {the speaker/the deictic center}

In addition, Lakhota provides the two morphologically complex deictic motion verbs *iyáyA* and *hiyú*, which arise from combining respectively *í* with *yÁ* (reduplicated) and *hí* with *ú*, and which are used to refer to the departure from here toward there and the departure from there toward here, respectively. A third motion compound, *hiyáyA*, is built from *hí* and (reduplicated) *yÁ* and means 'pass by'.[6]

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5. By "consequential", Stewart (2001: 14) means that the two verbs "express a natural sequence of events, and they are temporarily ordered in a precedence-consequence iconic relation." Moreover, the action expressed by the second verb is to be seen as "the second step of an overall plan on the part of the agent."

6. Siouan languages differ somewhat with respect which compound stems are available and how they are interpreted; cf. Taylor (1976). Comparing the system of Lakhota with that of Hočank (Winnebago) provides an interesting contrast: In Hočank, the two simple stems for non-completed movement are used to denote the inception of motion (i.e., departure) while ongoing movement is expressed by adding a suffix *-he* to these stems. The 'pass by' compound, on the other hand, is built from simple stems in the same way as in Lakhota.

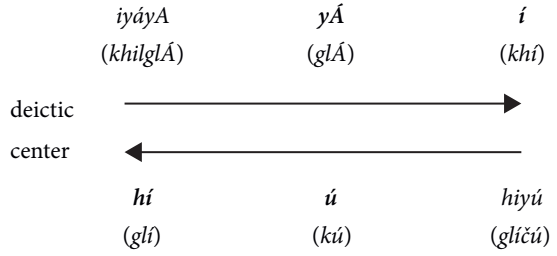

Figure 1. Basic (and vertitive) deictic motion verbs

The system of deictic motion verbs in Lakhota is summarized by the diagram shown in Figure 1. The figure also shows in brackets the corresponding set of *vertitive* motion verbs, which encode that the goal of the motion is a place where the mover belongs to or has been before. The vertitive variants are morphologically derived from the basic verbs, and the two vertitive departure versions are formed by compounding in analogous ways. The latter is also the case for the vertitive 'pass by' compound *gliglÁ* ('pass by on the way back').[7]

4.2 The expression of goals and directions

In Lakhota, the expression of non-deictic path notions such as goal or course differs crucially from the expression of deixis, which is encoded by the main verb of directed motion expressions. The end location or goal of a movement can be specified by locative and directional adverbs. Examples of locative adverbs for topological relations are *mahél* ('inside'), *thaŋkál* ('outside'), *khiyéla* ('nearby, close'), and *akáŋl* ('on top, on the surface'). Locative adverbs can function as postpositions if the prefix *i-* is added, which has the basic meaning 'in contact with' but can be more generally used for expressing 'in relation to, with reference to', among others (Ullrich

7. The Lakhota system of deictic motion verbs shown in Figure 1 is basically identical to that of Dakota and Assiniboine, except for minor morphophonological deviations (Taylor 1976: 290). Bourdin (this volume) puts the Assiniboine system of deictic verbs into a wider cross-linguistic context.

In the light of the data discussed by Lamarre et al. (this volume) it is worth mentioning that the four arrival verbs *í, khí, hí* and *glí* combine with a small number of verbs to form lexical compounds that seem to realize a 'come/go & do' pattern, possibly superseded by more lexicalized meanings (Ullrich 2016: 348). For example, *khí* combined with *yuŋkÁ* ('lie') gives rise to *khiyúŋkA* ('return back and lie down'; 'go back to bed'). Since this type of compounding turns posture verbs into predicates that primarily describe the transition into the respective posture, de Reuse (2006: 308) speaks of "Aktionsart marking" in this case.

2016: 404/438). That is, *itȟáŋkal* means 'outside of' and *ikhíyela* means 'close to'. Lakhota has also two general locative postpositions, *él* and *ektá*, which roughly correspond to English 'at', where *ektá* is primarily used for places away from the speaker or deictic center. Moreover, there is a locative suffix *-ta* (*-ata, -yata*) which, when attached to nouns such as *wakpá* ('river') and *pahá* ('hill'), produces locative adverbs like *wakpáta* ('at the/a river') and *paháta* ('at/on the/a hill').

The examples in (14a) and (14b) illustrate how boundary-crossing motion can be expressed by combining a deictic verb with an appropriate topological locative adverb.

(14) a. *Tȟaŋkál wa-í.*
outside 1SG.A-arrive.there
'I went outside.'
b. *Thi-máhel khiglé.*
house-inside depart.back.toward.there
'(S)he went back into the house.'
c. *Mary thí ektá iyáye.*
Mary house LOC.DIST depart.toward.there
'(S)he went over to Mary's house.'
d. *Wakpála kiŋ aglágla ú-pi.*
river DEF along come-PL.
'They were coming along the river.'

Example (14c) illustrates the specification of a goal by means of the distal locative postposition *ektá*. In (14d), a verb of non-completed motion is combined with a path description.

The adverbs and postpositions mentioned so far can occur in purely locational predications. The question then arises of what to consider as their basic semantic contribution. One option is to regard them as ambiguous between a locative and a directional interpretation (which is the standard strategy of a typical Lakhota-to-English dictionary). From a theoretical perspective, it seems more reasonable to assume a basic locative meaning of these expressions and to regard the directional meaning component of constructions like (14a)–(14c) as being introduced by the deictic motion verb.[8] Example (15) illustrates that manner of motion verbs like *máni* ('walk') do not trigger a directional reading of locative postpositions.

8. A similar point with respect to English is made by Gehrke (2008: 88), who assumes that the spatial preposition *in, on, under*, and *behind* only have a locative lexical meaning and that their use in directional phrases is to be explained structurally. This is in line with Zubizarreta and Oh (2007: 138–140), at least as far as the locative prepositions *in(side)* and *outside* are concerned.

(15) *Oíčhimani kiŋ ihápŋke ȟče kiŋ ektá máni.*
procession DEF end.of very DEF LOC.DIST walk
'(S)he walked at the very end of the procession.'

Thus, in Lakhota, the directional interpretation of locative adverbs and postpositions seems to require the presence of a deictic expression.

There are two further means of expressing goals and directions in Lakhota to be mentioned briefly: directional adverbs and locative prefixes. Lative directional adverbs can be formed by adding the suffix *-kiya* ('toward') to locative adverbs, as illustrated in (16).

(16) *Pahá-ta-kiya iŋyaŋke.*
hill-LOC-DIR run
'(S)he is running towards the hill'.

Note that in the case of topological adverbs such as *mahél* ('inside') and *tȟaŋkál* ('outside'), the respective lative adverbs are *mahétakiya* ('toward the inside') and *tȟaŋkátakiya* ('toward the outside'); for *mahél* and *tȟaŋkál* are to be regarded as truncated forms of *mahéta* and *tȟaŋkáta*.

The so-called locative prefixes in Lakhota include *a-*, *o-*, *i-* (and *khi*). While their precise meaning contribution depends considerably on the class of verbs they attach to, the prefixes *a-*, *o-*, and *i-* might be said to roughly correspond to 'on', 'in', and 'at', respectively. Adding a locative prefix to a verb has often an applicative, valence-increasing effect. Among others, locative prefixes can combine with verbs of putting to specify the target location, as shown in (17).

(17) *Wígli kiŋ niǧé kiŋ él o-káštaŋ.*
oil DEF pouch DEF LOC in-pour
'(S)he poured the oil into the pouch.'

4.3 Transitive deictic motion verbs

Deictic motion verbs can be transitivized in two ways: by *a*-prefixation and by applying the general causative suffix *-yA*:

(18) *a*-prefixation → accompanied motion
yA-suffixation → caused motion

Roughly speaking, the prefix *a-* turns verbs of coming and going into verbs of bringing and taking (along).[9] Here, bringing and taking are to be understood as to include

9. Deictic motion verbs prefixed by *a-* can also be used to refer to collective coming and going (Ullrich 2016: 360).

accompanied motion of the kind expressed by English 'guide', 'lead', etc. In the following, the prefix *a-* in the described use is glossed by AM (short for 'Accompanied Motion'). The example in (19a) shows a simple use of such a prefixed verb together with the locative postposition *ektá*.

(19) a. *Lé Lisa thí ektá á-ya yo.*
DEM Lisa house LOC.DIST AM-go IMP
'Take this over to Lisa's house!'
b. *Wahíŋkpe waŋ ye-yé.*
arrow INDEF go-CAUS
'(S)he sent/shot an arrow.'

The cliticized causative auxiliary *-yA* can attach to the intransitive deictic verbs except for the verbs of arrival. The example in (19b) illustrates the application of *-yA* to the deictic verb *yÁ* ('go, be on the way going'). Since *-yA* triggers *e*-ablaut on the base verb, the resulting causative verb is *yeyÁ*. Likewise, causativization of *iyáyA* gives rise to *iyáyeyA*, whose meaning can be paraphrased as 'cause to depart (from here)' or 'send away (from here)'.[10] The application of *-yA* to the deictic verbs of non-completed motion *yÁ* ('go') and *i* ('come') has to be qualified insofar as the caused motion use of *uyÁ* is not common anymore (according to the NLD). The causative form *yeyÁ*, on the other hand, can be used with the meaning 'send/throw/toss', as illustrated in (19b).

4.4 Expressing manner and causal force in directed motion constructions

Intransitive deictic manner of motion scenarios can be expressed by combining a manner of motion verb with a deictic motion verb using the SimEvent construction described in Section 3.2. Two examples are given in (20).

(20) a. *Íŋyaŋg glé.*
run go.back
'(S)he was running back.'
b. *Ziŋtkála kiŋ kiŋyáŋ iyáye.*
bird DEF fly depart
'The bird flew away.'

The deictic motion verb is always the main verb of the construction, which means that it occurs in final position and carries the subject marking if expressed.

10. In addition, there is the form *iyéyA*, which is frequently used in the same sense as *iyáyeyA* (and *yeyÁ*), but which can also function as an auxiliary with the meaning 'cause to happen/do sth suddenly/promptly'. The exact way in which *iyéyA* is derived as a caused motion verb calls for further research, however.

According to the properties listed in (7), the non-final verb is subject to truncation. In Example (20a), the manner verb *íŋyaŋkA* ('run') is truncated to *íŋyaŋg*. Other examples of manner of motion verbs in Lakhota are *maní* ('walk'), *slohÁŋ* ('crawl, creep'), *naúŋkA* ('gallop'), *kiŋyÁŋ* ('fly') and *nuŋwÁŋ* ('swim'). We have seen in (15) and (16) that manner verbs can also occur without a deicitc verb. Another such example is given in (21).

(21) *Blé waŋ tȟáŋka aglágla máni-pi.*
lake INDEF big along walk-PL
'They walked along a big lake.'

In the transitive case, the SimEvent construction can be employed for combining manner and causal force with deictic motion or transport. The construction then consists of a transitive verb that expresses the way the actor sets or keeps the undergoer in motion and, possibly, the way in which the undergoer moves, followed by a deictic motion verb which is typically transitive. Examples with causative deictic motion verbs are given in (22).

(22) a. *Kaȟ'ól hiyú-ye.*
throw depart.from.there.toward.here-CAUS
'(S)he threw it toward here.'
b. *Pa-čég~čég tȟaŋkál hiyú-ni-ye.*
by.pushing-stagger~REDUP outside depart.from.there-2SG.U-CAUS
'(S)he pushed you out (making you stagger).'

In accordance with the properties of the SimEvent construction, only the main verb carries personal markings, in general, and the non-final, dependent verb undergoes truncation, if possible, as, e.g., *čég* < *čékA* in (22b).

The dependent expression *kaȟ'ól* ('throw') in (22a) is somewhat exceptional in that there is no non-truncated verbal stem such as *kaȟ'ótA* documented in Lakhota (though Buechel and Manhart 2002 mention it as an obsolete form). Example (22b) is particularly relevant to the topic of the present section since the morphological structure of the dependent verb *pačégčeg* (< *pačégčekA*) provides a transparent encoding of the way the actor enforces the motion of the undergoer, expressed by the instrumental prefix *pa-*, and the manner of motion of the undergoer, expressed by the reduplicated version of the verb *čékA*.

Since the SimEvent construction has the same-subject constraint, the deictic head in caused motion expressions like those in (22) is necessarily transitive: The actor is required to be an argument of the deictic verb, but it is not the motion of the actor which the verb describes; hence the undergoer has to be an argument of the verb as well. The situation is different for transport and accompanied motion. Here, the actor moves along with the undergoer, and one might argue that specifying the deictic motion of the actor by an intransitive verb is sufficient in this case. As mentioned

in Section 3.2, the combination of a transitive dependent verb with an intransitive main verb is licensed by the SimEvent construction, with the object of the transitive verb often marked on the main verb (cf. (9)). The examples in (23) show that this combination does indeed occur in the description of transitive motion scenarios.

(23) a. *Pa-slóhaŋ máni.*
by.pushing-slide walk
'(S)he walked pushing it.'
b. *K'íŋ kaíšutȟa~tȟa ma-íŋyaŋke.*
carry.on.back stumble~REDUP 1SG.U-run
'Stumbling (s)he [the horse] ran carrying me.'

Note, however, that in these examples, the main verb is not a deictic motion verb but a manner of motion verb.

If deixis is expressed in multi-verb descriptions of transport or accompanied motion scenarios then the transitivized, accompanied motion variant of the deictic verbs is chosen, in general. A possible morphosyntactic explanation for this "transitivity harmony" could run as follows: Since Lakhota is a head-marking language, there is a tendency to mark the arguments on the final verb of the SimEvent construction. Transitive, accompanied motion versions of deictic verbs are available in the language. Hence they are used as heads in the respective constructions since they provide an argument slot for the object. The sentences in (24) illustrate the use of deictic accompanied motion verbs in combination with caused manner of motion verbs.

(24) a. *Yu-slóhaŋ a-wíčha-ye.*
by.pulling-slide AM-3PL.U.ANIM-go
'(S)he was dragging them away.'
b. *Pa-gmígma a-glí-pi.*
by.pushing-roll AM-arrive.back-PL
'They brought it rolling.'

The dependent verbs in these examples are again morphologically complex, as in (22b) (and (23a)), consisting of an instrumental prefix and a manner of motion verb. We analyze this specific type of construction, both with caused and accompanied deictic motion verbs, in more detail in Section 6 after taking a closer look at the various instrumental prefixes in Section 5.

The transitivity constraint on the deictic verb of a transitive motion construction has to be qualified somewhat in the case of transport by carrying. On the one hand, there are examples like (25) in which the carry verbs *alóksohAŋ* ('carry sth in/under the arm(s)') and *k'íŋ* ('carry smth/sb on the back or shoulders') combine with transitive deictic verbs of accompanied motion as predicted.

(25) a. *Oúŋpapila kiŋ alóksohaŋ a-wíčha-i-pi.*
infant DEF carry.in.arm AM-3PL.U.ANIM-arrive.there-PL
'They came with the infants in their arms.'
b. *Šiná ognágna k'íŋ a-glí-pi.*
blanket in carry.on.back AM-arrive.back-PL
'They brought it carrying it in blankets.'

On the other hand, at least *k'íŋ* can combine with intransitive deictic verbs as well; cf. (26a). The verb *yuhá*, which can mean 'hold/carry in the hands' but also 'have', even seems to allow only intransitive deictic verbs, as in (26b). Moreover, the co-occurrence of *alóksohAŋ* and *yuhá* in (26c) points to the fact that *yuhá* followed by a deictic verb can also be used in the general sense of accompanied deictic motion.

(26) a. *Tȟáȟča waŋ ó na háyuziŋ na k'íŋ glí.*
deer INDEF shoot CONJ strip.skin CONJ carry.on.back arrive.back
'(S)he shot the deer, stripped the skin and brought it home.'
b. *Íŋyaŋ waŋ yuhá hí.*
stone INDEF hold/have arrive.here
'(S)he came with a stone in her/his hands.'
c. *Hokšíčala waŋ alóksohaŋ yuhá ú.*
baby INDEF carry.in.arm have come
'(S)he was coming with a baby in her/his arms.'

The behavior of carry verbs may give reason to reconsider the above morpho-syntactic explanation of the transitivity harmony. Since the SimEvent construction allows transitive dependent verbs to combine with intransitive main verbs, transitivity harmony is not strictly required on syntactic grounds. It seems that the description of transport and accompanied motion scenarios calls for a transitive deictic verb if the dependent verb does not lexically entail that the undergoer moves with the actor. Otherwise, as with verbs of carrying, the use of an intransitive deictic motion verb can be adequate as well.

5. Instrumental prefixes

5.1 Overview of the inventory

There are eight instrumental prefixes in Lakhota, *ka-*, *na-*, *pa-*, *pu-*, *wa-*, *wo-*, *ya-*, *yu-*, of which *pu-* is rare. The meaning of the remaining seven prefixes is sketched in Table 1 (cf. Boas and Deloria 1941: § 45; Rood and Taylor 1996: 463; Ullrich 2011: 803–807; Ullrich 2016: 430–437). Note that the two main readings of the prefix *na-*, by action of foot and by inner force, are to be seen as homonyms since they seem to originate historically from different (verbal) stems.[11]

Table 1. Overview of the seven productive instrumental prefixes in Lakhota

ka-	by striking/hitting (with an instrument); by action of wind or water; by outer force
na-	by action of foot or leg // by inner force; by natural forces
pa-	by pushing or by pressure with the hands or the body
wa-	by cutting with a blade; by a sawing motion
wo-	by impact from a distance; by hitting or poking with a long object; by blowing
ya-	by means of the mouth (teeth, tongue, lips); by speaking
yu-	by means of the hands; by pulling; can also express general causation

As mentioned in Section 3.1, many transitive verbs are derived by combining an instrumental prefix with a stative root expressing the state or condition of an entity. Examples of the stative roots in Lakhota to which the prefixes can be added are *-blečA* ('be shattered') and *ksÁ* ('be separated') (cf. (5)). The resulting transitive causative verbs then have the form *na-ksÁ* ('break sth off with the foot'), *pa-ksÁ* ('break sth off by pushing or pressure'), *wa-ksÁ* ('separate sth by cutting/cut sth off'), etc. What is important in the present context is that the prefixes can also be attached to manner of motion verbs and to locative verbs and adverbs, among others. For example, when attached to the manner of motion verb *slohÁŋ* ('creep, crawl'), they yield verbs like *pa-slóhAŋ* ('push sth along') and *yu-slóhAŋ* ('drag or draw sth along, tow sth') (cf. (23a), (24a)).[12] Complex verbs of this type thus encode both the manner of motion of the undergoer and the means by which the movement is brought about by the actor. Similar to their intransitive counterparts, these transitive motion verbs often occur with deictic verbs, which, as we have seen in Section 4.4, are usually required to be transitive in this case.

11. According to Rankin et al. (2015), the inner/natural force reading of *na-* corresponds to a 'by heat/cold' instrumental prefix in other languages of the Siouan-Catawban language family.

12. Attaching instrumental prefixes to locative adverbs such as *mahél* ('inside'), cf. Section 4.2, yields verbal expressions of the form *pa-/yu-mahél* ('push/pull inside').

5.2 Aktionsart properties of instrumental prefixes and prefixed verbs

In order to describe the causative semantics of prefixed verbs in more detail, it is useful to take into account the Aktionsart properties of the different instrumental prefixes. Since the prefixes, at least in the relevant readings, denote actions, the only relevant Aktionsart distinction is the one between punctual and durative actions. The two impact-related prefixes *ka-* and *wo-* can be classified unequivocally as punctual in this respect. The remaining five prefixes can refer to punctual as well as to durative actions, with differing tendencies towards the one or the other side. For example, an action with the foot as encoded by *na-* is often but not always punctual, while pulling with the hand as expressed by *yu-* is typically but not necessarily durative. The prefix *ya-* ('by means of the mouth or teeth') is rather flexible with respect to the punctual/durative distinction since the mouth or teeth can be used to separate something (27a) but also to fixate something and thereby to keep contact with it (27b).

(27) a. *Pȟá kiŋ ya-ksá ičú.*
head DEF by.mouth-be.separated take.
'(S)he bit off its head.'

b. *Šúŋka kiŋ tȟahá waŋ ya-slóhaŋ a-glí.*
dog DEF hide INDEF by.mouth-slide AM-arrive.back
'The dog brought a hide dragging it with his teeth.'

The specific type of causal relation between the action expressed by the instrumental prefix and the event or state denoted by the stem or root to which the prefix is attached depends on the Aktionsart properties of both components. If the causing event denoted by the prefix is point-durational then the causation expressed by the prefixed verb is also point-durational by default. When combined with roots or stems that express non-gradable stative ("target-state") predicates such as *-blečA* ('be shattered') and *ksÁ* ('be separated'), as in the examples in (5), the caused event is the point-durational transition into the respective state. This scenario comes close to what Talmy (2000) calls a basic causative situation: two simple events that are causally related take place (roughly) at the same time.[13] However, this characterization has to be qualified insofar as the prefix *wo-* expresses "action from a distance", which includes continuous ('by poking') but also discontinuous causation ('by shooting') in the sense of Section 2.

13. Talmy's (2000: 495) condition that the "caused event takes place exactly during the duration of the causing event" seems somewhat counterintuitive since one would expect the cause to always precede the effect, at least slightly. The notion of "exhaustive ordered overlap" used by Pustejovsky (1995: 70) for "two basically simultaneous subevents, where one starts before the other" seems more appropriate in this respect.

When combined with manner of motion verbs like *slohÁŋ* ('slide; lit.: creep') and *čékA* ('stagger, reel'), the addition of a point-durational prefix indicates by default the causation of the onset of a movement, which can then be assumed to continue autonomously (for some time) due to the *principle of inertia*. Such a scenario is already a complex causative situation in Talmy's sense since it consists of a basic causative situation that sets off an autonomous event. By definition, a point-durational action cannot be the causing event of a basic extent-durational causation. However, the action can be iterated ("multiplexed" in Talmy's terms) to keep the caused event going. Rolling a hoop by (repetitively) hitting it with a stick is a case in point. Such a situation does not count as a basic causation but can still be considered as an extent-durational causation.

Potentially durative prefixes such as *pa-* ('by pushing') and *yu-* ('by means of the hands, by pulling') can denote extent-durational actions that can serve as the causing events of basic extent-durational causations. A possible scenario of this type is, for instance, given by the intended interpretation of the example in (1a). Pushes and pulls can of course also occur virtually punctual; cf. the discussion in Section 2. The full repertoire of causative situations is thus available for *pa-* and *yu-* as well, including point-durational causation and derived, multiplexed extent-durational ones.

While the focus of the present article is on caused motion events that go along with a change of location, it should be kept in mind that the foregoing distinctions between the different causation types do apply in the same way to caused motion-in-place scenarios. For example, the intransitive verb *huŋhúŋzA* ('shake, rock, vibrate') takes all instrumental prefixes except *wa-*, and, when combined with *pa-* or *yu-*, gives rise to basically the same variety of possible causation types.

6. The composition of causation, manner, and deictic motion

In view of the distinctions spelled out in the previous section, the possible combinations of prefix Aktionsart and caused directed motion scenarios can be summarized as shown in (28). The cases (28a) and (28d) correspond to basic causative situations. Case (28b) enforces an iterative interpretation ("multiplexing") of the punctual activity, while case (28c) requires a punctual interpretation of the potentially durative activity.

(28) a. *inherently punctual activity + point-durational causation*
(e.g. *x* kicks *y* once and thereby makes *y* slide away)
b. *inherently punctual activity + extent-durational causation*
(e.g. *x* kicks *y* repeatedly and thereby keeps *y* sliding forward)
c. *potentially durative activity + point-durational causation*
(e.g. *x* pushes *y* once and thereby makes *y* slide away)
d. *potentially durative activity + extent-durational causation*
(e.g. *x* pushes *y* continuously and thereby keeps *y* sliding forward)

In order to test empirically if and how the different combinations are interpretable by native speakers, we prepared a small questionnaire consisting of sentences which one of the authors used during a field study for eliciting English translations from three native Lakhota speakers. The sentences contain SimEvent constructions in accordance with the pattern in (29), with varying prefixes and with variation in the use of caused and accompanied deictic motion verbs.

(29) ⟨instr. prefix⟩-⟨intrans. motion verb⟩ ⟨trans. deictic motion verb⟩

More specifically, we tested the instrumental prefixes *pa-*, *yu-*, *na-* and *ka-*, where *pa-*, *yu-*, and *na-* are potentially durative, with *na-* showing a tendency towards punctuality, and where *ka-* is inherently punctual. The intransitive motion verb was fixed to *slohÁŋ*. These instrumental verbs have been combined with three different transitive deictic motion verbs: the accompanied motion form of *yÁ* and the causative forms of *iyáyA* and *yÁ*. The set of Lakhota sentences in the questionnaire and the English translations provided by the consultants are given in (30) for *áyA*, in (31) for *iyáyeyA*, and in (32) for *yeyÁ*.

Consider the sentences in (30). The cases in (30a) and (30b) are instances of (28d) and thus completely straightforward. The iterative interpretations of (30c) and (30d) apparently provide no difficulties either.

(30) a. *Wógnake kiŋ* ***pa****-slóhaŋ* *á-ye*.
container DEF by.pushing-slide AM-go
'He's pushing/dragging the suitcase/cabinet (along).'

b. *Wógnake kiŋ* ***yu****-slóhaŋ* *á-ye*.
container DEF by.pulling-slide AM-go
'He's pulling the suitcase/cabinet (along).'

c. *Wógnake kiŋ* ***na****-slóhaŋ* *á-ye*.
container DEF by.using.foot-slide AM-go
'He's pushing it with his feet.'

d. *Wógnake kiŋ* ***ka****-slóhaŋ* *á-ye*.
container DEF by.striking-slide AM-go
'He is batting the suitcase along.'/
'He's pushing the cabinet by hitting it with something.'

The constructions in (31) give rise to a point-durational interpretation because of the chosen verb of departure. The straightforward cases are here (31c) and (31d); they can be both subsumed under (28a). The required punctual interpretations of *pa-* and *yu-* in (31a) and (31b) seem to be fairly unproblematic as well.

(31) a. *Wógnake kiŋ* ***pa****-slóhaŋ* *iyáye-ye.*
Container DEF by.pushing-slide depart.from.here-CAUS
'He pushed the suitcase away.'/
'Pushes hard so that it starts sliding by itself.'
b. *Wógnake kiŋ* ***yu****-slóhaŋ* *iyáye-ye.*
container DEF by.pulling-slide depart.from.here-CAUS
'Pulls hard so that it starts sliding by itself.'
c. *Wógnake kiŋ* ***na****-slóhaŋ* *iyáye-ye.*
container DEF by.using.foot-slide depart.from.here-CAUS
'He pushed the suitcase away with his foot.'
d. *Wógnake kiŋ* ***ka****-slóhaŋ* *iyáye-ye.*
container DEF by.striking-slide depart.from.here-CAUS
'He sent the suitcase sliding along.'

The interpretation of the combinations in (32) turned out to provide slightly more difficulties for the consultants. (The sentences have even been considered ungrammatical by one person.) The problem might be that *yeyÁ* is the causative form of a non-completed motion verb, whose interpretation is probably less transparent than the causative form of a verb of departure. This shows up particularly in the elicited translations of sentence (32d).

(32) a. *Wógnake kiŋ* ***pa****-slóhaŋ* *ye-yé.*
container DEF by.pushing-slide go-CAUS
'Standing behind pushing forward so that it slides away from him.'
b. *Wógnake kiŋ* ***yu****-slóhaŋ* *ye-yé.*
container DEF by.pulling-slide go-CAUS
'He jerked the cabinet forward so that it slid.'
c. *Wógnake kiŋ* ***na****-slóhaŋ* *ye-yé.*
container DEF by.using.foot-slide go-CAUS
'He kicked it and it went by itself.'/
'He pushed it with his feet so that it started sliding.'
d. *Wógnake kiŋ* ***ka****-slóhaŋ* *ye-yé.*
container DEF by.striking-slide go-CAUS
'He hit it, it moves along, he hit it again, it moves, he hit again, etc.'/
'Kind of throw it so that it slides forward.'

In sum, the small empirical study shows that the exceptionally transparent morphosyntactic decomposition system provided by Lakhota for the encoding of force, causation, and deictic motion guides the interpretation of transitive directed motion expression as predicted.

7. Typological perspectives

Various typological perspectives can be taken on the Lakhota data discussed in this article. A first thing to ask is to which extent the Lakhota system of encoding transitive directed motion is reflected in other Siouan languages. As mentioned in passing, this holds for many of the components such as the system of deictic motion verbs, the general causative auxiliary, and the system of instrumental prefixes. More information is needed, however, about correlates of the SimEvent construction in other Siouan languages.

Assiniboine, which is closely related to Lakhota and Dakota, though not up to full mutual intelligibility, seems to provide basically the same constructional pattern as Lakhota for combining force, manner, and deictic motion in transitive directed motion descriptions; cf. (33).[14]

(33) *Hį́į́, tʰatʰą́ka wąží ya-snóhą a-kní-pi.* (Assiniboine)
Oh, buffalo one by.mouth-slide AM-arrive.back-PL
'Oh, they dragged one buffalo back using their mouths.'

Whether or not this type of construction has the same morphophonological and morphosyntactic properties as the SimEvent construction in Lakhota has still to be explored, however.[15]

The Siouan languages of the Missouri Valley branch, Crow and Hidatsa, are more distantly related to the Dakotan branch and differ from Lakhota in a number of ways. In particular, there seems to be no direct correlate of the SimEvent construction in Crow and Hidatsa. In both languages, a "same subject" morpheme *-ak* is available for conjoining verbs and verb phrases (Graczyk 2007: 402–416; Boyle 2011). Clause chaining with *-ak* can be used for expressing both simultaneous and sequential events. In this construction, person is marked on every verb of the chain but the plural morpheme occurs only on the final verb (Graczyk 2007: 406). Another difference to Lakhota is the considerably reduced set of basic deictic motion verbs in Crow and Hidatsa (Taylor 1976: 293).

In Lakhota, deictic motion is expressed by the main verb of the clause while non-deictic path information is encoded rather differently by adverbs and adpositions. Matsumoto et al. (2017) mention Kathmandu Newar (Tibeto-Burman) and Jaminjung (Nothern Australia) as further examples of languages that express

14. The example is sentence (120) of the tale 'Bad Hair White Man' in Parks et al. (2012), using the orthographic conventions of Cumberland (2005).

15. The short section in Cumberland (2005: 406–407) on "adverbial verbal complements" is too cursory in this respect.

deixis by the main verb and path by other means such as adverbs, coverbs, or case markers. The comparison with Newar is particularly interesting since it has, like Lakhota, both accompanied and caused motion versions of deictic motion verbs (Matsuse 2020).

Instrumental prefixes, while typologically not a very widespread phenomenon, appear not only in the Siouan-Catawban language family but also in a number of other, unrelated North American languages (Mithun 1999: 118–126). Certain Austronesian languages show also affixation systems that may count as instrumental prefixes (McGregor 2002: 292).

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Abbreviations

A	Actor
ACC	Accusative
AM	Accompanied Motion
ANIM	Animate
CAUS	Causative
DEF	Definite
DEM	Demonstrative
DIST	Distal
INAN	Inanimate
INDEF	Indefinite
LOC	Locative
PL	Plural
REDUP	Reduplication
SG	Singular
U	Undergoer

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CHAPTER 11

Constraints constrained

Equipollent verb constructions in Emai

Ronald P. Schaefer and Francis O. Egbokhare
Southern Illinois University Edwardsville / University of Ibadan

We investigate the framing typology for motion events initiated by Talmy (1985, 2000) relative to predications in Emai from West Benue Congo. We concentrate on Path, which appears either in a satellite or a verb. Two main framing patterns emerge. With a Cause co-event verb, Path lexicalizes in a verb when articulating punctual or durative contact but in a satellite when expressing basic dislocation and extended dislocation. Extended dislocation requires a Cause co-event verb in series with a verb of extended motion and a Path satellite. We interpret extended dislocation not as representing an additional framing type but as a reflex of Emai lexical and morphosyntactic resources. Consequently, we hold to a semantic typology whose primary design principle is Path assignment to a verb or a non-verb, with equipollent framing receiving a secondary status.

Keywords: Cause co-event verb, Edoid, Emai, framing patterns, serial verbs

1. Introduction

Talmy's (1985, 2000) typology for framing the semantic components of a motion event and its co-event, Manner or Cause, has stimulated substantial crosslinguistic investigation (Berman and Slobin 1994). Vexing for Talmy's framework are serial verb constructions (SVCs). Verbs in series do not fit neatly into either verb framing or satellite (non-verb) framing (Zlatev 2003, Zlatev and Yangklang 2004). Each framing type identifies a distinct category for syntactically coding the Path of a motion event. In a SVC, a canonically complex predication shows a Motion+Path verb in series with a co-event verb.

Given the difficulty of assigning serial verbs to Talmy's framing typology, Slobin (2004) proposed a third type, classifying SVCs as equipollent. Subsequently, Talmy (2009, 2016) challenged this designation, providing a set of criteria for determining

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main verb status. He proposed that most equipollent framing is better viewed as satellite framing. Despite this proposal, little attention has been directed to the lexicalization of motion events by serial verb constructions in Africa, the extent of their equipollent framing, and constraints on equipollent framing.

For this paper we explore a range of predications with verbs in series. They express Path for a moving Figure object relative to a more stationary Ground entity. Predications of this nature involve the semantic components Motion and Path; they also include a co-event that codes either Manner or Cause. Our language of analysis is Emai (Edoid, West Benue Congo, Niger Congo) of southern Nigeria (Elugbe 1989, Williamson and Blench 2000). Reliant on lexical and grammatical tone, Emai is relatively strict SVO with little segmental inflection and few prepositions. It employs simple intransitive, transitive, or ditransitive predicates. In addition, Emai utilizes complex predicates consisting of verbs in series, verb plus postverbal particle, or verb plus verb and particle. Our data emanate from text (Schaefer and Egbokhare 1999), dictionary (Schaefer and Egbokhare 2007), and grammar documentation (Schaefer and Egbokhare 2017) in addition to more targeted elicitation.

By way of overview, we find quite similar framing patterns for a Path bearing constituent that is accompanied by a Manner or Cause co-event. In a simple verb predication, Path lexicalizes with Motion. With a Manner co-event verb, regardless of its transitivity, Path uniformly lexicalizes with Motion in a verb. Cause co-event predications lexicalize Path in a slightly more variable fashion. Two primary lexicalization patterns emerge, each with a variant for realizing Path relative to Motion and its Cause. With a Cause co-event, Path lexicalizes in a verb for punctual and durative contact but in a satellite for basic dislocation and extended dislocation. Emai Cause co-event constructions thus reflect equipollent and satellite framing, in one case combining them. As we will show, extended dislocation predications require, in addition to a Cause co-event verb and a Path satellite, a verb of extent. Since extent verb and satellite together form a constituent that occurs in series with a co-event verb, extended dislocation appears to show a new framing type that fuses equipollent framing and satellite framing. We will challenge this conclusion.

2. Basic motion

Basic translational motion in Emai is lexicalized by a verb that includes both of the semantic components Motion and Path. The verbs in (1) illustrate this principle, respectively encoding 'move into,' 'move out of,' 'move toward,' and 'move around.' In each example, the grammatical subject expresses the moving object or Figure,

while either an oblique object (*vbi* marked) or a direct object articulates Ground relative to the Figure's direction of movement.[1]

(1) a. *òjè ó vbí ékóà.*
Oje PRP.move.into LOC room
'Oje has moved into / entered the room.'
b. *òjè shóó vbí úkpódè ré.*
Oje PRP.move.out.of LOC road arrive
'Oje has moved off / exited the road.'
c. *òjè yé èkìn.*
Oje PRP.move.toward market
'Oje has moved toward the market.'
d. *òjè ò ó lágàà ùhàì.*
Oje SC C move.round well
'Oje is moving around / circling the well.'

A more complete set of Emai Motion+Path verbs are presented in the Appendix. They include *heen* 'ascend,' *kpoon* 'descend,' *lagaa* 'move around, circle,' *se* 'move as far as,' *shan* 'move through, via,' *ye* 'move toward,' *dianre* 'come out,' *raale* 'move away,' *fan ze* 'cross,' *raa re* 'pass,' and *shoo re* 'exit.' These verbs constitute a closed class of forms with contrasting transitivity and valency. Some are transitive bivalent while others are intransitive bivalent; for the latter, a locative marked oblique object representing a Ground component precedes or follows the Motion+Path verb.

3. Complex motion

Basic translational motion aside, Emai articulates complex motion events with a co-event of Manner or Cause. Across the coding of complex event types, we attend to the framing of Path by a syntactic category. With a Manner co-event verb, regardless of transitivity, Path uniformly lexicalizes with Motion in another verb. Manner co-event constructions reflect a relatively consistent equipollent framing type. With a Cause co-event, Path coding is more variable. Path lexicalizes as the sole semantic component of a particle, or it is enveloped by a verb in series. Framing associated with a Cause co-event in Emai is, as we will see, less consistent compared to Manner.

1. Orthographic conventions for Emai are generally consistent with those in Schaefer and Egbokhare (1999, 2007, 2017), where **o** represents a half open back vowel, **e** a half open front vowel, and **vb** a voiced bilabial approximant. For tone, acute accent marks high, grave accent signals low, and acute accent followed by an apostrophe designates high downstep.

3.1 Manner co-event

Emai motion predications that encode Manner as co-event do so with a single framing type. Members of the closed class of Motion+Path verbs in (1) combine with a range of co-event Manner verbs, either transitive or intransitive. Predications with a Manner co-event and a Motion+Path verb consistently evince equipollent framing.

To illustrate, we consider the Motion+Path verb expressed by the half close back vowel *o* 'move into/onto, enter.' It combines with intransitive Manner verbs such as *la* 'run,' *yee* 'charge,' *sio* 'slither,' as indicated in (2). In series, an intransitive Manner verb must precede its partner Motion+Path verb. Both verbs are marked by tone for their common tense-aspect, present perfective in these examples.

(2) a. *òjè lá ó vbí ékóà.*
Oje PRP.run enter LOC room
'Oje has run into the room.'
b. *òjè yéé ó vbì ìwè.*
Oje PRP.charge enter LOC house
'Oje has charged into the house.'
c. *ólí ényè síó ó vbì ògò.*
the snake PRP.slither enter LOC bush
'The snake has slithered into the bush.'

A similar overall framing type characterizes a Motion+Path verb in series with a Manner verb that is transitive. The verb *o* combines with transitive Manner verbs such as *sua* 'push,' *se* 'split a path,' *kpolo* 'gather an aggregate,' and *hua* 'carry a plurality.' The Manner verb precedes the Motion+Path verb. Again, each verb is tonally marked for a common tense-aspect.

(3) a. *òjè súá ókò ó vbí ékóà.*
Oje PRP.push mortar enter LOC room
'Oje has pushed a mortar into the room.'
b. *òjè sé òsé ó vbì ògò.*
Oje PRP.split path enter LOC bush
'Oje has split a path into the bush.'
c. *òjè kpóló élí ékhè ó vbì ìwè.*
Oje PRP.gather the pots enter LOC house
'Oje has gathered the pots into the house.'
d. *òjè húá ùgbòfì ó vbí ékéín égbóà.*
Oje PRP.carry orange enter LOC inside backyard
'Oje has carried oranges into the backyard.'

Complex verb series predications with a Manner co-event deconstruct as verbs in a symmetrical fashion. That is, each verb in series can occur in a non-serial

predication. We have already seen in (1) that verb *o* 'enter' can occur as the only verb of a predication. Likewise, intransitive manner verbs from (2) can appear in a clause as sole verb, as shown in (4).

(4) a. *òjè ò ó lá.*
Oje SC C run
'Oje is running.'
b. *òjè yéé-ì.*
Oje PRP.charge-PFV
'Oje has charged.'
c. *ólí ényè ò ó síó vbì òtòì.*
the snake SC C slither LOC ground
'The snake is slithering on the ground.'

In a similar fashion, a transitive verb of Manner can be the lone verb of a predication. Each transitive verb from (3) occurs in a non-series predication.

(5) a. *òjè ò ó sùà ókò.*
Oje SC C push mortar
'Oje is pushing a mortar.'
b. *òjè ò ó sé òsé.*
Oje SC C split path
'Oje is splitting a path.'
c. *òjè kpóló élí ékhè.*
Oje PRP.gather the pots
'Oje has gathered the pots.'
d. *òjè húá ùgbòfì.*
Oje PRP.carry orange
'Oje has carried oranges.'

An important feature to note about complex events with a transitive Manner co-event is the coadunate character of their participants. That is, the referents for the Agentive subject and the Figure direct object move together relative to the Ground. None of the preceding Manner co-event sentences conveys movement in space of its direct object relative to the Ground without also including the Agent. All transitive Manner examples above exhibit translational motion events where the participants are exclusively coadunate.

In an appropriate context, the coadunate character of a predication with a Motion+Path verb can be suspended. Under such a condition, what is asserted is not motion of the Figure but its ultimate location relative to Ground. This shift is not widely found among Motion+Path verbs in (1) but it does occur. A representative example appears in (6) with the verb *lagaa*. This verb never occurs in a simplex clause lexicalizing Be.located+Path (e.g. **élì ògó lágáá àgá* 'The bottles are located

around the chair'). It requires construal of co-event as Cause and a Figure object as repositioned in space.

(6) a. *òjè húá élì òǵó lágáá àgá.*
Oje PRP.carry the bottles move.around chair
'Oje has put the bottles around the chair.'

b. *òjè gbá úgbà lágáá óĺí ímè.*
Oje PRP.tie fence move.around the farm
'Oje has put a fence around the farm.'

3.2 Cause co-event

In contrast to Manner, Cause co-events express Path in a slightly more variable fashion. What we find are distinct framing strategies, each specifying Path relative to Motion and its Cause. One framing strategy applies to events where contact is punctual or durative. Under this condition Path articulates as one semantic component of a verb in series. A second framing strategy pertains to cause events where a Figure undergoes spatial dislocation, either extended or not. Path in this instance articulates as a satellite, i.e. a postverbal particle. For dislocation that is extended, Path must also be accompanied by an immediately preceding verb of extent. Framing types for complex predications with a Cause co-event thus reflect equipollent framing, satellite framing, and a fused type where a verb of extent and a satellite form a constituent that follows another verb in series. As will become clear, co-events of the Cause type do not impose the coadunate condition characteristic of complex predications with transitive co-events of Manner.

3.2.1 *Contact*

Complex predicates with a Cause co-event verb in series with another verb code physical contact. Framing is exclusively equipollent. Relative to Figure and Ground, the temporal character of contact is either punctual or durative. Regardless of contact nature, it is a verb in series that lexicalizes Path.

The contact verb *gbe* and its direct object in a simplex clause reveal meanings related to 'hit.' In complex predications with a Cause co-event *gbe* codes punctual contact 'against' as second verb in series, thereby specifying Path. Its direct object serves as Ground for the overall motion event. The Figure element derives grammatically from the Cause co-event. Depending on causative/inchoative alternation in the complex predication, the Figure occurs as direct object or subject (7)–(8), respectively. Under the causative alternate (7a), (8a), co-event direct object serves as Figure, while under the inchoative (7b), (8b), it is co-event subject that identifies the Figure.

(7) a. *òjè gbúlú ólí ókò gbé ìmátò.*
Oje PRP.roll the mortar hit car
'Oje has rolled the mortar against the car.'
b. *ólí ókò gbúlú gbé ìmátò.*
the mortar PRP.roll hit car
'The mortar has rolled against the car.'

(8) a. *òjè fí úkpóràn gbé ùdékèn.*
Oje PRP.throw stick hit wall
'Oje has thrown a stick against the wall.'
b. *ólí úkpóràn dé gbé ùdékèn.*
the stick PRP.fall hit wall
'The stick has hit / fallen against the wall.'

As a simple transitive predicate, *gbe* and its direct object exhibit senses related to punctual contact or iteration of punctual contact. Examples include beating a drum, hitting someone, and clapping hands.

(9) a. *òjè gbé ólì ìbè.*
Oje PRP.beat the drum
'Oje has beaten / played the drum.'
b. *òjè ò ó gbè ólí óvbèkhàn.*
Oje SC C beat the youth
'Oje is beating / hitting the youth.'
c. *òjè ò ó gbè ábò.*
Oje SC C hit hands
'Oje is clapping his hands.'

A quite similar framing of Path arises with events of attachment and durative contact. Included are inclined contact, suspended attachment, affixed attachment, restrained contact, and inclusive attachment. Each requires a complex predicate with verbs in series, the durative contact verb following the Cause co-event verb. As with punctual contact, the Path for durative contact articulates in a verb. In the examples below, Path is conveyed by the second verb in series, respectively, *gon, khuan, baa, nye*, and *ze*. Each is tonally marked for the same clause level tense-aspect as the Cause co-event verb.

(10) a. *òjè róó úkpóràn gón vbí ùdékèn.*
Oje PRP.select pole lean LOC wall
'Oje has leaned the pole against the wall.'
b. *òjè nwú ólì èkpà khúán vbí ólí óràn.*
Oje PRP.carry the bag suspend LOC the tree
'Oje has hung the bag in the tree.'

c. *òjè tú ólí ébè báá vbì ùdékẹ̀n.*
Oje PRP.spread the paper join LOC wall
'Oje has pressed / stuck the paper onto the wall.'

d. *òjè ò ó lùghù ólí úkpún nyẹ̀ vbì ùdékẹ̀n.*
Oje SC C squeeze the cloth constrain LOC wall
'Oje is squeezing the cloth against the wall.'

e. *òjè kháán ìshé zé vbí úkhùèdẹ̀.*
Oje PRP.pound nail integrate LOC door
'Oje has pounded / stuck a nail into the door.'

Following each Path verb above is a *vbi* marked object. It functions as Ground for the Figure, which is uniformly realized as direct object of the co-event verb.

In a simplex clause, Path verbs in (10) denote meanings related to their use in contact predications. Most occur without an obligatory *vbi* phrase. None accepts the erstwhile direct object from the co-event predicate as subject in a simplex clause.

Path verbs employed in durative contact predications can occur as simple intransitives or transitives. For instance, complex predicates showing *gọn* express inclined ('against') contact (10a). As an intransitive verb in series with verb *rẹ* 'take' and its direct object (11), *gọn* conveys the sense 'lean.' Its direct object is limited to body-part noun *égbè* 'body' and grammatical subject to a human noun. A locative *vbi* phrase of place is obligatory.

(11) *òjè ré égbè gón vbí óràn.*
Oje PRP.take body lean LOC wood
'Oje has leaned against the wood (with his body).'

Complex predicates with *khuan* articulate suspended ('in/on') attachment (10b). As a simple transitive verb, *khuan* has the sense 'position by suspending / pulling apart / bending open.' It takes as direct object only a head noun that refers to a trapping device with a suspended fixture. *khuan* in a simplex clause does not convey the complex predicate sense 'hang,' although the result of a trapping event is a victim that assumes a suspended, hanging position.

(12) a. *òjè khúán ífi.*
Oje PRP.suspend spring.trap
'Oje has set a spring trap (with a trip wire) / suspended a trap.'

b. *òjè khúán ìkpàkútẹ́.*
Oje PRP.suspend metal.trap
'Oje has set a snare trap (with metal teeth).'

Complex predicates with *baa* convey affixed attachment ('onto'), as in (10c). *baa* never occurs in a simplex clause. It is restricted to complex predicates where it occurs in series with verb *de* 'reach' to convey 'join, participate with' or it appears with change of location (CL) particle *ọ*, leading to sense 'put, insert.'

(13) a. *òjè dé báá élí ívbèkhàn.*
Oje PRP.reach join the youths
'Oje has joined / participated with the youths.'
b. *òjè báá ìshé / àgbèdé ó vbì òtòì.*
Oje PRP.join nail needle CL LOC ground
'Oje has inserted a nail / a needle into the ground.'

Complex predicates with *nyẹ* express restrained ('against, to') contact in (10d). As a simple transitive predicate, *nyẹ* has the sense 'restrain, constrain, strain.' Its precise sense depends on the resulting collocation relation and its direct object noun, which can be either a body part noun or a human noun, as illustrated in (14).

(14) a. *ólí ómò ò ó nyè ényè.*
the child SC C strain breast
'The infant is suckling a breast / is breast feeding.'
b. *òjè ò ó nyè égbè.*
Oje SC C strain body
'Oje is straining his body.' (as when relieving oneself)
c. *òjè kpén ábò nyényé òhí.*
Oje PRP.position hands restrain Ohi
'Oje has prodded Ohi with his hands / pushed Ohi along.'

Complex predicates with *ze* in (10e) express inclusive attachment ('into'). As a simplex predicate, *ze* appears only in the reduplicated shape *zeze*, where it has sense 'congeal, become stiff, become arduous,' depending on intransitive subject (15a)–(c). Each meaning expresses the fusion of substance into a unified entity, as the *ze* complex predicate requires for its sense of inclusive attachment.

(15) a. *ólì àkàsán zézé'-ì.*
the maize.pap PAP.congeal-PFV
'The maize pap congealed.'
b. *ábó ísì òjè zézé-ì.*
hand ASS Oje PRP.become.stiff-PFV
'The hand of Oje has become stiff.'
c. *ólì òbìà zézé-ì.*
the work PRP.become.arduous-PFV
'The work has become arduous.'

3.2.2 *Dislocation*

Spatial dislocation of a Figure object by means of a Cause co-event is reflected in two complex predication types. Both frame Path as a satellite that is realized by the half open back vowel *o* 'into/onto.' As a postverbal particle, *o* expresses change of location (CL). In addition, one of these predications requires that Path stand as a

constituent with a verb of extent in series; this pattern appears to fuse equipollent and satellite framing.

A predication with a Cause co-event actualizes basic dislocation of a Figure relative to a Ground. Its core, as already mentioned, is the change of location particle *o*. When it follows a Cause verb, predication sense pertains to basic dislocation of the 'put' type. It is particle *o* that lexicalizes Path. Both particle and co-event verb are marked by tone for their common, clause-level tense-aspect. The Figure, realized as Cause co-event direct object, undergoes motion relative to particle *o*'s oblique object. The latter serves as Ground.

(16) a. *òjè nwú èkpà ó vbì ìtébù.*
Oje PRP.carry bag CL LOC table
'Oje has put a bag onto the table.'

b. *àlèkè síón ìvíé ó vbí úì.*
Aleke PRP.thread corral.bead CL LOC string
'Aleke has threaded corral beads onto a string.'

c. *òjè ò ó zè òú ò vbí ùgín.*
Oje SC C pick cotton CL LOC basket
'Oje is picking cotton into a basket.'

d. *òjè gáá àmè ó vbì ògbèdí.*
Oje PRP.collect water CL LOC barrel
'Oje has collected water into a barrel.'

Each Cause co-event verb in (16) can appear as sole verb of a simplex clause, as we can see in (17).

(17) a. *òjè nwú èkpà.*
Oje PRP.carry bag
'Oje has carried a bag.'

b. *àlèkè síón ìvíé.*
Aleke PRP.thread corral.beads
'Aleke has threaded corral beads.'

c. *òjè ò ó zè òú.*
Oje SC C pick cotton
'Oje is picking cotton.'

d. *òjè gáá àmè.*
Oje PRP.collect water
'Oje has collected water.'

Not every verb that occurs in basic dislocation predications can serve as a simple transitive verb in a clause. For instance, verbs *baa* and *re* can co-occur with CL *o* in a clause of basic dislocation, as revealed in (18)–(19). Neither, however, appears as a simple transitive verb (18b), (19b).

(18) a. *òjè ré ìkhùnmì ó vbì èkò.*
Oje PRP.take charms CL LOC maize.meal
'Oje has put charms into the maize meal.'
b. **òjè ré ìkhùnmì.*
Oje PRP.take charms
'Oje has taken / used charms.'

(19) a. *òjè báá àgbèdé ó vbì òtòì.*
Oje PRP.add needle CL LOC ground
'Oje has put / inserted a needle into the ground.'
b. **òjè báá àgbèdé.*
Oje PRP.add needle
'Oje has added a needle.'

As for the grammatical marker of dislocation, CL particle *ó*, it never occurs as sole verb in a clause. As indicated in (20a)–(b), it is restricted to complex predications that include a Cause co-event verb. Also, it never co-occurs with a co-event of intransitive Manner (20c). Other postverbal particles that exhibit some of the same restrictions are change of possession *li*, change of state *a*, and projected adherence *e*.

(20) a. **èkpà ó vbì ìtébù.*
bag PRP.CL LOC table
'A bag has moved onto the table / got moved onto the table.'
b. **àmè ó vbì ògbèdí.*
water PRP.CL LOC barrel
'Water has moved into the barrel / got moved into the barrel.'
c. **òjè lá ó vbí úkpódè.*
Oje PRP.run CL LOC road
'Oje has run onto the road.'

Basic dislocation differs from extended dislocation by addition to the latter of a verb in series. For extended dislocation, a Cause co-event verb combines in series with a verb of extent and the postverbal particle *ó*. Extended dislocation of a Figure thus exhibits a framing pattern that is similar to, yet distinct from, basic dislocation. In fact, extended dislocation cannot be characterized as simply equipollent or satellite framing; instead, it fuses the two.

As to the coding of extent in dislocation predications, it is signaled by one of the verbs *fi* or *ku* in series. Either occurs in the same constituent as CL particle *ó* and must immediately precede the particle. No syntactic element may intervene. Selection of *fi* or *ku* depends on grammatical number of the dislocated entity. When the Figure is singular, *fi* is retained; when plural or mass, *ku* is employed. Preceding *fi*/*ku ó* is a Cause co-event structure.

We illustrate extended dislocation first with an intransitive Cause co-event. In (21) the co-event is coded by intransitive verb *vboo* 'jump.' It immediately precedes the extent verb *fi*, postverbal particle *o* and its oblique object, which serves as Ground. It is the grammatical subject of *vboo* that undergoes motion. It serves as Figure.

(21) *òjè vbóó fì ó vbí ókhúmí èsí.*
Oje PRP.jump extend CL LOC top donkey
'Oje has jumped onto the donkey.'

With a Cause co-event that is transitive, extended dislocation reveals a similar framing pattern. The co-event precedes constituent *fi*/*ku o vbi NP*. The grammatical relation of the motion-event Figure will vary according to which transitivity alternation (causative or inchoative) the co-event manifests. In the causative alternate, a verb like *miaghan* 'flick' appears with its Agentive subject and Figure direct object, as in (22a). In the inchoative alternate, the Figure occupies subject position preceding *miaghan* (22b). Both alternations utilize an extent verb in series as well as the CL particle.

(22) a. *òjè míághán ólì èkhòì fí ó vbì ìtébù.*
Oje PRP.flick the worm extend CL LOC table
'Oje has flicked the worm onto the table.'
b. *ólì èkhòì míághán fí ó vbì ìtébù.*
the worm PRP.flick extend CL LOC table
'The worm got flicked onto the table.'

When the Figure in an extended dislocation predication consists of multiple entities or a mass, it is followed by *ku* rather than *fi* in series. Again it is the causative/inchoative alternation that determines the grammatical relation of the Figure. With verb *khakha* 'spread' in a causative alternate, (23a), its direct object codes Figure and precedes *ku o vbi NP*. In the inchoative, the Figure is actualized as *khakha*'s grammatical subject (23b). Regardless of alternation pattern, the co-event precedes the extended dislocation constituent.

(23) a. *òjè khákhá íkpèfó kú ó vbí égbóà.*
Oje PRP.spread seeds extend CL LOC backyard
'Oje has spread vegetable seeds all over the backyard.'
b. *íkpèfó khákhá kú ó vbí égbóà.*
seeds PRP.spread extend CL LOC backyard
'Vegetable seeds got spread all over the backyard.'

Extended dislocation in complex predications is not limited to the vertical plane, as in the examples above. It can occur in structures that play out on the horizontal dimension, as with *khu* 'chase' in series.

(24) a. *òjè khú ólí éwè fí ó vbí égbóà.*
Oje PRP.chase the goat extend CL LOC backyard
'Oje has chased the goat over into the backyard.'
b. *òjè khú-ló élí éwè kú ó vbí égbóà.*
Oje PRP.chase-DS the goats extend CL LOC backyard
'Oje has chased the goats over into the backyard.'

Extended dislocation can also be conveyed by a Cause co-event verb lacking the ballistic force of many of the preceding examples. With a verb like *nwu* 'carry a singleton' in series with constituent *fi o vbi NP*, the complex predicate sense is 'drop.' Two additional verbs among others participating in 'drop' predications are *hua* 'take hold of a plurality' and *roo* 'select, take from an array' (25a)–(b).

(25) a. *òjè nwú éànmì fí ó vbì òkpàn.*
Oje PRP.carry meat extend CL LOC gourd
'Oje has dropped meat into the gourd.'
b. *òjè nwú ólì èkpà fí ó vbí úkpódè.*
Oje PRP.carry the bag extend CL LOC road
'Oje has dropped the bag onto the road.'

We turn now to the character of Cause co-event verbs in extended dislocation predications. Each verb in (21)–(25) can appear as sole predicate of a clause.

(26) a. *òjè ò ó vbóó.*
Oje SC C jump
'Oje is jumping.'
b. *òjè ò ó mìàghàn élì èkhòì.*
Oje SC C flick the worms
'Oje is flicking off the worms.
c. *òjè khákhá íkpèfó.*
Oje PRP.spread seeds
'Oje has spread vegetable seeds.'
d. *òjè khú ólí éwè.*
Oje PRP.chase the goat
'Oje has chased the goat.'

As to the forms *fi* and *ku* that express extent of dislocation, each occurs as main verb in a simplex clause. Each also expresses meanings related to extended dislocation, either through physical motion or fictive motion. *fi* denotes events of throwing, shooting an arrow, or dangling legs.

(27) a. *òjè fí údò.*
Oje PRP.throw stone
'Oje has thrown a stone.'

b. *òjè fí ètẹ̀kùn.*
Oje PRP.shoot arrow
'Oje has shot an arrow.'

c. *áwẹ́ ísì òjè ò ọ́ fì léghélẹ́ghẹ́.*
legs ASS Oje SC C extend dangling.fashion
'Oje's legs are dangling out / stretching out.'

In a similar vein, *ku* denotes events of casting divining seeds, stretching an animal skin to shape a drum, sloughing off snake skin, or dripping saliva.

(28) a. *òjè kú íkhùẹ̀khúẹ́.*
Oje PRP.cast divining.seeds
'Oje has cast divining seeds.'

b. *ólí ényẹ̀ kú íùhù.*
the snake PRP.stretch skin
'The snake has sloughed/shed its outer skin.'

c. *yàn kú ìbè.*
they PRP.stretch drum
'They have fashioned a drum head (by stretching a skin).'

d. *ólí ómọ̀ ò ọ́ kù òdòghò.*
the baby SC C disperse saliva
'The baby is dripping saliva.'

The verbs *fi* and *ku* also appear in basic dislocation predications. Each precedes a Figure in direct object position in a 'put' clause: *fi* only where a tight-fit relation holds between *fi* direct object and the oblique object of particle *ọ*; *ku* only where its direct object is a liquid or mass aggregate. In such predications, neither verb conveys extended dislocation.

(29) a. *òjè fí àghán ọ́ vbí édìn.*
Oje PRP.thrust sickle CL LOC palm.tree
'Oje has inserted / put a sickle into the palm tree.'

b. *òjè kú évbìì ọ́ vbì ìtébù.*
Oje PRP.pour palm.oil CL LOC table
'Oje has poured / put palm oil onto the table.'

There is another postverbal form in Emai that encodes extended dislocation of a Figure. Particle *ẹ* conveys a Path best approximated by 'onto.' It expresses projected adherence (PAD) of a moving entity onto a reference point that can only be human. Particle *ẹ* immediately follows either of the extent verbs *fi* or *ku*. Preceding a *fi/ku ẹ NP* constituent is a Cause co-event. Important to note about PAD *ẹ* is that it requires adherence of Figure to Ground, as found with direct objects *ólì èkhòì* 'the worm' and *ólí úshẹ́n*' 'the powder' in (30a)–(b).

(30) a. *òjè míághán ólì èkhòì fí é àlèkè.*
Oje PRP.flick the worm extend PAD Aleke
'Oje has flicked the worm onto Aleke.'
b. *òjè óhó ólí úshén' kú é àlèkè.*
Oje PRP.blow the powder extend PAD Aleke
'Oje has blown the powder onto Aleke.'

Should the direct object referent be incapable of adherence, ungrammaticality will result. Such is the case in (31) with *údò* 'stone' or *ùgbòfi* 'orange.'

(31) **òjè fí údò / ùgbòfi fí é àlèkè.*
Oje PRP.throw stone orange extend PAD Aleke
'Oje has thrown a stone / orange onto Aleke.'

4. Discussion

Our examination of event framing for motion events in Emai has encompassed a range of predications. Inspired by Talmy (1985, 2000) and Slobin (2004), we find evidence of verb framing (VF) for simplex predications as well as equipollent framing (EF) and satellite framing (SF) for complex predications. Simplex predications consisted of a clause with a single transitive or intransitive verb; they coded basic motion events with no co-event. Complex predications primarily displayed verbs in series, i.e. equipollent framing, where one verb articulated either a Manner co-event or a Cause co-event while a second verb encoded Motion and Path. There was one complex predication type, dislocation that deviated from the verb series paradigm. It employed a format that was verb+particle for basic dislocation and verb+verb+particle for extended dislocation. Table 1 provides an initial assignment of the different predication types in Emai to the Talmy and Slobin framing types.

Table 1. Emai predication types*

	Co-event	VF	SF	EQ	VF+SF
SM	Ø	√			
MM intr	manner			√	
MM tr	manner			√	
MOCT	cause			√	
SSCT	cause			√	
DL tr	cause		√		
EXDL intr	cause				√
EXDL tr	cause				√

* (SM = simple motion, MM = manner of motion, MOCT = punctual contact, SSCT = durative contact, DL = basic dislocation, EXDL = extended dislocation) aligned with co-event type and framing type (VF = verb, SF = satellite, EQ = equipollent)

Relative to Table 1 and its assignment of framing types, Talmy (2009, 2016) would likely dismiss equipollent framing. Essentially, he maintains that relative to purported "verbs" in series, one verb is not really a verb. Rather, it is a satellite with the properties of a satellite. Across verb series predications in Emai, forms lexicalizing Path consistently exhibited their potential as sole verb of a clause. It is thus difficult to understand how the Emai verbs in series with a co-event verb of Manner or Cause can be dismissed, à la Talmy, as exclusively satellites. Clearly, there are verbs in Emai complex predications that actualize what has been called equipollent framing.

But is the debate about equipollent framing or its absence actually productive? Isn't the fundamental insight from Talmy (1985, 2000) that the framing of Path is split? Path is found either inside or outside a verb. When path is inside, we have verb-framing. When path is outside, we have satellite-framing. This appears to be the interpretation of Zlatev (2007), Iacobini and Fagard (2011). It is also consistent with the surge of corpus-based and stimuli-based studies, especially with European languages, that have assessed the linguistic and non-linguistic coding of motion events (Bohnemeyer et al. 2007, Fagard et al. 2013, Montero-Melis et al. 2017). These studies have revealed extensive inter- and intra-language variation with respect to the usage of verb-framing and satellite-framing (Iacobini 2019). Most of these studies conclude that Talmy's typology is more applicable to construction types within a language than to language types per se, as initially intended.

A quite similar conclusion has been reached by non-corpus-based investigations of languages and the coding of Path exclusively as verb framing or satellite framing (Croft et al. 2010, Beavers et al. 2010). Although Beavers et al. acknowledge that languages tend to rely on multiple framing types, i.e. VF, SF, or EF; they also take a broader perspective. They remind us that application of Talmy's typology or any semantic typology to a language or language family must be mindful of formal resources made available by the language or its ancestry. Among these resources are lexical and morphosyntactic categories, as well as the essential syntactic necessity of a verb in every clause.

Our view is that these two research strands need to be more closely intertwined. The extensive usage of variable framing types in the broader area of Standard Average European (SAE), as noted by Iacobini (2019), is understandable given the range of grammatical resources available. For other linguistic areas, where similar lexical and morphosyntactic elements may not exist, variation in the usage of framing types may not be as prevalent. We should not lose sight of the potential constraining effect of form-based resources on the realization of any semantic typology, let alone Talmy's typological insight. If the inventory of particles, affixes and adpositions in a language were impoverished, for example, a satellite framing strategy would prove extremely difficult to implement. Indeed, the extensive debate concerning the shift from VF > SF or SF > VF across the SAE area might usefully be viewed as a function of its rich lexical and morphosyntactic inventory. For a large

chunk of West Africa, including the Emai homeland, similar morphosyntactic and lexical resources are not so readily available. Languages in this part of the world rely on a more limited inventory of formal resources.

Consider in this regard the potential distribution of adverbs of time and distance within a clause. In Emai clauses with a serial verb structure, an adverbial of time, e.g. *ẹ̀dẹ̀dẹ́*, is restricted to clause final position (32a); it cannot intervene between verbs in series (32b). The same is not true for English, where a temporal adverbial, e.g. *a short time ago*, may occur in clause final position (33a) or after a verb phrase and before a satellite prepositional phrase (33b).

(32) a. *òjè míághán èkhòì fí ó vbì ìtébù ẹ̀dẹ̀dẹ́.*
Oje PRP.flick worm extend CL LOC table short.time
'Oje flicked the worm onto the table a short time ago.'

b. **òjè míághán èkhòì ẹ̀dẹ̀dẹ́ fí ó vbì ìtébù.*
Oje PRP.flick worm short.time extend CL LOC table
'Oje flicked the worm a short time ago onto the table.'

(33) a. *John flicked a worm onto the table a short time ago.*

b. *John flicked a worm a short time ago onto the table.*

Similar but not identical constraints affect adverbs of proximity or distance. In English a proximity adverb like *high* or *far* may appear clause internally (34a) but not clause finally (34b). In Emai, on the other hand, an equivalent adverb, *kpèé* 'far, distant, high' is restricted to clause final position (35a); it may not occur clause internally between verbs in series (35b).

(34) a. *John threw a stone high toward/into the sky.*

b. **John threw a stone toward/into the sky high.*

(35) a. *ójé fí' údò yé ókhúnmí kpèé.*
Oje PAP.throw stone move.toward sky high
'Oje threw a stone far / high into the sky.'

b. **ójé fí' údò kpèé yé ókhúnmí.*
Oje PAP.throw stone high move.toward sky
'Oje threw a stone far / high into the sky.'

Each of these example sets illustrates how adverbial positioning within a clause is impacted by distinct restrictions on verb phrase form. In Emai, adverbials are not permitted in the slot between verb phrases in series. In English the position between a verb phrase and a prepositional phrase allows adverbials.

A final element of Emai form that we address concerns dislocation and its framing by a satellite. Given the predominance of verb framing in Emai constructions, it seems vital to inquire about the postverbal particle (change of location *ọ*) in dislocation predications and its status in Emai grammar.

As a West Benue Congo language, Emai shares its heritage with the Bantu languages of East Benue Congo and greater sub-Saharan Africa. In Bantu a simple verb can combine with one or more derivational affixes, traditionally called extensions (Voeltz 1977, Schadeberg 2003). These affixes encode a range of meanings relevant to event change, including causative, inchoative, reversive, locative, etc. Our contention is that it is from this derivational heritage that Emai sources its synchronic postverbal particles. They encode change of possession, change of state and, most important for this study, change of location.

Having addressed key aspects of dislocation predications in Emai, we summarize our revised interpretation of its motion event framing in Table 2. In contrast to Table 1 and regardless of co-event type, Table 2 reveals the dominance of verb framing and the much more restricted role of satellite framing. It is the limited engagement of satellite framing in Emai that beckons us to consider how formal resources, whether realized as morphosyntactic, lexical, or syntactic units, may restrain the Talmy typology for encoding motion events.

Table 2. Emai predication types*

	Co-event	VF	SF	EQ	VF+SF
SM	Ø	√			
MM intr	manner	√			
MM tr	manner	√			
MOCT	cause	√			
SSCT	cause	√			
DL tr	cause		√		
EXDL intr	cause		√		
EXDL tr	cause		√		

* (SM = simple motion, MM = manner of motion, MOCT = punctual contact, SSCT = durative contact, DL = basic dislocation, EXDL = extended dislocation) aligned with co-event type and framing type (VF = verb, SF = satellite, EQ = equipollent).

As a final comment, we reflect on the relative consistency with which Emai selects the verb framing type. Its preference for verb framing in most predications calls out for more attention across the African continent. In most of sub-Saharan Africa at least, verb framing for basic translational motion events appears frequently (Schaefer and Gaines 1997). We can then ask to what extent does verb-framing or satellite-framing lay the foundation for complex predications with a Manner or Cause co-event. It is perhaps at the intersection of such complex predication types and the African propensity for verbs in series or verb extensions that we might gain further insight into the linguistic framing of motion events. Further detailed inquiry into the framing typology of complex predications in Africa and elsewhere can only enhance our understanding of language and its motion component.

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Abbreviations

Abbreviations for grammatical morphemes used throughout this paper include:

ASS	associative	PAD	projected adherence
C	continuous	PAP	past perfective
CL	change of location	PFV	perfective
DS	distributive	PRP	present perfective
LOC	locative	SC	subject concord

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Appendix

(1) a. *òjè ó vbí ékóà.*
Oje PRP.enter LOC room
'Oje has entered the room.'

b. *òjè shóó vbí úkpódè ré.*
Oje exit LOC road arrive
'Oje has exited / left the road.'

c. *òjè sé vbí édà.*
Oje PRP.move.as.far.as LOC river
'Oje has moved as far as the river.'

d. *òjè ò ó shàn vbí édà.*
Oje SC C move.to LOC river
'Oje is proceeding to the river.'

e. *òjè yé èkìn.*
Oje PRP.move.toward market
'Oje has moved toward market.'

f. *òjè ò ó lágàà ùhàì.*
Oje SC C move.round well
'Oje is moving around the well.

g. *òjè shán égbóà.*
Oje PRP.move.through backyard
'Oje has moved through the backyard.'

h. *òjè héén ólí ókòó.*
Oje PRP.move.up the hill
'Oje has ascended the hill.'

i. *òjè kpóón ólí ókòó.*
Oje PRP.move.down the hill
'Oje has descended the hill.'

j. *òjè fán ólí édà zé.*
Oje PRP.cross the river release
'Oje has crossed the river.'

k. *òjè ráá ólí ókòó ré.*
Oje PRP.pass the hill arrive
'Oje has passed (beyond) / over the hill.'

l. *òjè zá vbì ìwè ráálè.*
Oje PRP.be.from LOC house move.away
'Oje has moved away from the house.'

m. *òjè ráálè.*
Oje PRP.move.away
'Oje has moved away.'

n. *òjè zá vbí ólí ékóà díànré.*
Oje PRP.be.from LOC the room come.out
'Oje has come out of the room.'

o. *òjè díànré.*
Oje PRP.come.out
'Oje has come out.'

CHAPTER 12

Lexical aspect and morphosyntactic cohesion between motion verbs and spatial particles in Homeric Greek

Castrenze Nigrelli
University of Palermo

The aim of this paper is to investigate a rather neglected topic in motion event studies, i.e. the role that lexical aspect (i.e. *Aktionsart*) plays in motion event encoding in Homeric Greek. Building on the theoretical framework of Talmy (1985, 1991, 2000, 2009), this work focuses on the role that telicity (Vendler 1967), as a verb-inherent semantic feature, plays in the distribution of motion verbs and co-occurring spatial particles as well as in their different mutual morphosyntactic cohesion. The textual analysis of the *Iliad* and the *Odyssey* shows a non-random distribution of motion verbs and spatial particles with their own semantic value, in particular a stronger morphosyntactic cohesion is found between telic verbs and goal-oriented particles, due to their mutual semantic compatibility.

Keywords: Aktionsart, goal-oriented particles, semantic compatibility, telicity

1. Introduction

1.1 The framework

How languages express motion is one of the largely-explored topics among the linguistic studies of the latest decades, from both a typological and a cognitive perspective. The essential works of Talmy (1985, 1991, 2000, 2009) established a seminal and widely-accepted typological classification of languages, based on the typical pattern they use to encode a motion event. A (complex) translational motion event includes a set of semantic components and it can be described as an object (Figure) moving (Motion) with respect to another reference object (Ground), following a certain path (Path) and in a certain way (Manner). Path represents the core element of the event, expressing the relationship between Figure and Ground. Talmy's typology basically

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distinguishes verb-framed from satellite-framed languages, depending on whether Path is encoded in the verb root (e.g., Sp. *El perro* ***entró*** *en el jardín corriendo*), or outside the verb root (e.g., Eng. *The dog ran* ***into*** *the garden*), in the so-called 'satellite' constituent, such as particles. In the Spanish example the main verb *entrar* 'to enter' conveys Motion+Path, while Manner is conveyed by the gerund *corriendo* 'running' (Path is in the verb); on the contrary, in the English example the main verb *run* conveys Motion+Manner, while Path is conveyed by a satellite element, the particle *into* (Path is outside the verb).

1.2 Peculiar features of spatial particles in Homeric Greek

As well as the other oldest Indo-European languages, Ancient Greek is generally classified as satellite-framed (see Talmy 2000; Imbert 2010). Although some researchers have shown diachronic changes in Ancient Greek typology, involving lexical stratifications, Homeric Greek (henceforth HG) seems to be coherently satellite-framed, at least for specific verbal classes, such as that of manner-of-motion verbs (see Baldi 2006; Skopeteas 2008; Imbert 2010; Nikitina 2013; Verkerk 2014). Specifically, HG had several spatial particles functioning as path-encoding satellites, as *diá* 'through' in (1).

(1) *ikhthuóenta* *kéleutha* ***di-édramon***
rich.in.fish.ACC.PL way.ACC.PL through-run.AOR.3PL
'(The ships) **ran through** the sea (lit. rich in fish ways)' (*Od*. 3.177)

As agglutinated preverb of the aorist *édramon* 'ran', which expresses Motion+Manner, the particle *di(á)-* 'through' in (1) expresses Path; *ikhthuóenta kéleutha* 'the sea' represents Ground; Figure is implied (*ships*). The term *particle* here refers to those polysemic linguistic items with peculiar morphosyntactic features. Such items can in fact occur in different functions, as agglutinated preverbs, as preverbs in so-called tmesis (i.e. non-agglutinated preverbs),[1] as adpositions (mostly prepositions), or,

1. The term *tmesis* 'cut' (from the Greek verb *témnō* 'to cut') refers to an archaic phenomenon, wrongly understood by old grammarians as a Homeric oddity connected to metrical reasons, which in fact represents an intermediate phase of the grammaticalization process undergone by Homeric particles (see below, this section). Tmesis is a feature shared by several ancient Indo-European languages and likely belonging to the Indo-European itself (see Wakernagel 1924). Homeric tmetic constructions are verb-particle constructions, characterized by the presence of linguistic material between particle and verb (e.g. *Il.* 1.436 ***ek*** *d' eunàs* ***ébalon*** 'Then they **cast out** the mooring-stones'): in fact, they are discontinuous verbal phrases in the same way as both English phrasal verbs (e.g. Eng. *to* ***put*** *the coat* ***on***) and Italian *verbi sintagmatici* (e.g. It. ***mettere*** *il cappotto* ***su***); for further details on tmesis, see, among others, Bertrand (2014); Pompei (2014).

in a residual form, as free adverbs (Luraghi 2003).[2] From a semantic point of view, these Ps can be seen as both *goal-oriented* (such as *eis* 'to', *epí* 'to', and so on) and *non-goal-oriented* (such as *pará* 'beside', *perí* 'around', and so on), depending on their own major or minor semantic compatibility with the idea of reaching an endpoint. Compared to Ps which mean *around* (such as *perí* in HG), Ps which mean *to* (such as *epí* in HG) are semantically more compatible with an endpoint reached by the Figure moving (e.g. Eng. *The dog ran around the tree vs. The dog ran to the tree*). However, such classificatory proposal is here established taking into account that, basically, the difference between goal-oriented *vs.* non-goal-oriented Homeric Ps is not always clear, due to the polysemic nature of Ps (e.g. *epí* means 'to, towards', but also 'upon, onto'; see below, Section 3.2).[3]

Ps were originally multifunctional adverbial items which moved freely within the sentence, due to the relatively free word order of the early Indo-European languages, such as HG. Over time, Ps underwent a diachronic process of grammaticalization, i.e. the process that leads autonomous lexical items becoming bounded forms (e.g. grammatical affixes) by progressively losing their syntactic autonomy. Depending on their mutual semantic compatibility with a co-occurring verb or nominal, the morphosyntactic behavior of Ps became more regular and cohesive when they were bound to such co-occurring items, so that Ps slowly became preverbs or adpositions (see, among others, Chantraine 1953; Schwyzer 1959; Kuryłowicz 1964). In fact, the grammaticalization of Ps in old Indo-European languages, such as HG, took place gradually, along a path of increasing morhosyntactic cohesion with co-occurring items, and through successive diachronic phases. The first phase of such process corresponds to the status of *free adverb*; the second to that of *preverb in tmesis*, i.e. non-agglutinated preverb; the third to that of the so-called *juxtaposition*, i.e. preposition or occasional preverb; the fourth to that of *agglutinated preverb*, i.e. a constituent of a real verbal compound; the fifth to that of *affix*, i.e. involved in the derivational process (Pompei 2014: 268).[4] Since the latter

2. Adpositions still had a quite free position in HG, although prepositions are much more common than postposition, and they became the common usage in Classical Greek (Luraghi 2003: p. 81).

3. The term *non-goal-oriented* here refers to both stative (such as *en* 'in') and non-stative particles (such as *diá* 'through'), which however do not prototypically entail an endpoint. Although particles are mostly polysemic items, in this paper they are presented with only one meaning just for convenience and space reasons; other potential meanings are shown within the examples (see Section 3).

4. In more detail, the morphosyntactic behavior of particles in the third phase is quite ambiguous, since they can still maintain a certain autonomy, occurring as both the head of a prepositional phrase and an item in preverbal position, which does not yet constitute a proper (i.e. morphological) compound with the verb (actually, it can also occur in tmesis). For further details about Homeric particles and their phases of grammaticalization, see Pompei (2014).

phase has not attested in HG, the status of both preverb in tmesis and preposition hence represents an intermediate phase between that of free adverb and agglutinated preverb (in a real compound).

Besides the reduction of their syntactic autonomy, the process of grammaticalization could also involve a semantic change of Ps from a concrete (spatial) to a more abstract metaphorical meaning, especially at the more advanced phases of the process (see, among others, Hopper and Traugott 1993; Pompei 2014).

Taking Talmy's theory as a starting point, many researchers have explored motion event encoding through elicited data taken from native speakers of a number of different languages. Although the present study deals with a non-elicited corpus, HG turns out to be a rather interesting study object, due to its own linguistic stratification, namely diachronic (beside diatopic, i.e. dialect mixing), linked to the long oral-aural composition, fruition, and tradition (see, among others, Meillet 1913; Parry 1932). Despite its literary and quite artificial nature, it is noteworthy and crucial for the present study (see below, Section 3.2) that HG synchronically shows traces of different and successive diachronic phases of grammaticalization (Bertrand 2014; see also Schwyzer 1959).

1.3 Lexical aspect and telicity as verb-inherent aspectual feature

The present research aims at investigating a rather neglected topic in motion events studies, which is the role that lexical aspect (i.e. *Aktionsart*), and, in particular, verb-inherent telicity plays in motion event encoding in HG. Lexical aspect (or *Aktionsart*) refers to the inherent nature of the action expressed by the verb meaning. Differently from grammatical aspect, which is connected to a dedicated morphology (e.g. Slavic languages) or mostly to tense, lexical aspect concerns the inner semantics of the verb, of the verbal root (*inherent aspect* or *semantic aspect*; see Comrie 1976), based on several semantic features, such as telicity. Telicity is the semantic-aspectual feature which can be defined as characterizing those actions or events which entail a natural or intended endpoint (Vendler 1967; Depraetere 1995). Telicity represents the most important aspectual property since it is responsible for the basic Vendlerian distinction between the different verbal classes of the atelic *states* (e.g. *to be*) and *activities* (e.g. *to swim*) *vs*. the telic *accomplishments* (e.g. *to learn*) and *achievements* (e.g. *to fall*; see Bartolotta 2017a and below, this section). As is well known, besides the interaction with grammatical aspect (i.e. perfective/imperfective), lexical aspect can interact with other co-occurring linguistic items, such as particles, adverbials, nominal objects. It is still a matter of debate whether telicity is a lexical or syntactic feature: in other words, whether it pertains to verbs (verbal roots) in isolation (i.e. *inherent telicity*) or rather to verbal phrases, sentences, or whole situations (i.e.

compositional telicity; see Verkuyl 1972). Therefore, a compositional perspective on telicity takes into account the interaction between verb and other co-occurring phrases (e.g. Eng. *I eat* (atelic) > *I eat two apples* (telic); *I run* (atelic) > *I run out* (telic)). This perspective on telicity is also largely accepted. In fact, the diagnostic tests to verify telicity are mostly syntactic (e.g. the *in/for test*, which deals with the verb's (in)compatibility with different temporal adverbials).

Taking into consideration motion events, although the role of telicity has not been excluded in the studies, it has been generally related to the syntactic level or to the whole event, in terms of compositional telicity (*telic path* or *boundary crossing*; see, Aske 1989; Slobin and Hoiting 1994; Slobin 1996).[5] However, verbal roots are not empty forms in reference to lexical aspect, but have their own inner aspectual nucleus, as shown by recent studies. Telicity has been recently re-evaluated as an inherent semantic property of the verb, which plays a fundamental role on the development of the verbal system in the most ancient Indo-European languages, such as HG and Vedic Sanskrit, and in Proto-Indo-European itself (see, among others, Bartolotta 2009, 2016, 2017a, 2017b). Based on diachronic morphological evidence, it turns out that verb-inherent telicity is crucial for the distribution of tense markers (and, then, for grammatical aspect), which takes place in a relatively more recent state of Proto-Indo-European.[6] Such evidence is a different kind (i.e. morphological) of test for telicity, which confirms that inherent telicity is a rather stable feature, although it could be changed by other co-occurring elements. Furthermore, the more common (i.e. syntactic) tests for telicity has been applied to ancient Indo-European languages, such as HG and Vedic Sanskrit (see Napoli 2006; Bartolotta 2017a; see also below, Section 3.1). In addition, verb-inherent telicity has a role in the entailment of the arrival of the Figure to an endpoint in Homeric motion events (see the cases of *eîmi* 'go; come' and *baínō* 'go; come' in Bartolotta 2017b).

5. On the relationship between aspectual properties and motion verbs, with particular reference to French, see also Aurnague (2011) and Aurnague's chapter in this volume.

6. In fact, the first state of Proto-Indo-European was rather non-inflectional and the only difference was related to the lexical aspect of verbal roots, i.e. verb-inherent (a)telicity. The successive emergence of inflectional morphology (i.e. tense) has built on the aspectual differentiation between telic/atelic roots (for further details, see Bartolotta 2009, 2016).

1.4 The scope

Moving from these studies, this paper aims at investigating the role of telicity in motion event description. The paper is built on the textual analysis of the *Iliad* and the *Odyssey*, dealing with a slightly different way to look at telicity (i.e. inherent) in motion event description, and taking into account the distribution of three motion verbs with opposing aspectual features, as well as their co-occurring spatial particles.[7] In particular, the analysis focuses on the Homeric distribution of the atelic verbs *théō* and *trékhō* [−telic] and the telic (aorist) *édramon* [+telic]. Due to their aspectual opposition, such verbs form the Homeric suppletive paradigm of the prototypical manner-of-motion verb *run*. The analysis also involves the distribution of both goal-oriented and non-goal-oriented spatial particles as Path-encoding elements co-occurring with the verbs at issue. Taking into consideration the mutual semantic compatibility between telic verbs and goal-oriented particles, the hypothesis is that there could be a significant variation, in some extent linked to the verb-inherent (a)telicity, involving the distribution of the occurrences without *vs*. with particles, and, among the latter, in the kind (i.e. goal- *vs*. non-goal oriented), the semantics, and the morphosyntactic status of particles.

The study is here limited to the case of the Homeric verbs for *run*. The rationale for analyzing the case of *run* is firstly due to its status of translational manner-of-motion verb: from this perspective, *run* is more prototypical compared to a verb such as *dance*, for example (on the status of Ancient Greek verbs for *dance* as non-motion verbs, see Baldi 2006). Also, verbs for *run* are quite frequently attested within the *Iliad* and the *Odyssey*, but they are not included in the sample investigated by Baldi (2006). Furthermore, there is a reason strongly connected to the scope of this paper. The case of *run* is useful in order to investigate the role of inherent (a)telicity in the encoding of motion events. In fact, the Homeric paradigm of *run* is characterized by a suppletive relation between verbal stems based on their aspectual opposition due to inherent (a)telicity (see 2.1). Finally, an analysis of verbs for *run* shows a trend that can be confirmed by extending the analysis to other verbs.

Besides the present introduction (Section 1), the paper is structured as follows: the objects of the study are illustrated in Section 2, focusing on the aspectual opposition between telic and atelic Homeric motion verbs for *run* (2.1), and also

7. The online *Thesaurus Linguae Graecae* (TLG 2000) was used as a digital corpus of HG texts. Other bibliographical tools are the critical editions by West (1998–2000), for the *Iliad* and by Von der Mühll (1962) for the *Odyssey*, the Greek dictionary *Liddell-Scott-Jones* (LSJ 2011), the Greek etymological dictionaries by Frisk (1960–72), and Chantraine (1968–80), as well as the lexicon by Snell (1955–2010). With regard to Indo-European, the reference dictionaries are Pokorny (1959) and Rix (2001).

examining their co-occurring spatial particles (2.2). The results of the textual analysis are shown in Section 3, focusing on the role that verbal telicity plays, firstly, in the variation between the frequency of absolute verbal forms, i.e. without co-occurring particles, and forms with particles among the verbs (3.1), and, secondly, in the variation of the semantic value and morphosyntactic status of their co-occurring spatial particles (3.2). Finally, in order to sum up the main insights of the present investigation, a brief conclusion is provided in Section 4.

2. The objects of the analysis

2.1 *Théō, trékhō,* and *édramon*: The suppletive paradigm for 'run' in HG

From the etymological point of view, the verbs *théō* and *trékhō* trace back respectively to the Indo-European atelic roots **dhew-* 'to run' e **dhregh-* 'to run', while the aorist *édramon* traces back to the zero grade **dṛm-* of the Indo-European telic root **drem-* 'to run (to)' (see Table 1):

Table 1. Homeric paradigm for 'run'

Homeric verbs	Indo-European roots
théō	< [−telic] IE **dhew-* 'to run'
trékhō	< [−telic] IE **dhregh-* 'to run'
édramon (aorist)	< [+telic] IE **drem-* 'to run (to)'

Due to their aspectual value, both atelic verbs *théō* and *trékhō* basically occur as present stems: in fact there is no aorist form attested for *théō* and, although there is a sigmatic aorist (aor. *thréxaskon*) for *trékhō*, it is just a secondary form, compared to the present stem (see Drinka 1995). In turn, the telic verb *édramon* occurs only as an aorist and as a perfect stem (pf. *dédroma* 'I have run', from the -o- grade **drom-* of the root **drem-*; see Chantraine 1968–80; Pokorny 1959; Rix 2001; Snell 1955–2010; see also Bartolotta 2016).

From the semantic point of view, all three manner-of-motion verbs basically refer to running, not only in the strict sense with legs of animated beings, but also referring to the idea of a fast or fluid movement of inanimate beings (such as ships, e.g. *Od*. 13.86, wheels, e.g. *Il*. 23.520; beams/drills, see (2) below). After Homer, *trékhō* gradually replaced *théō*. Chantraine (1968–80) argued that *trékhō* could originally mean 'to turn', so that the semantic change from 'turn' to 'run' could come through the sense of 'turn to the finish line' in a race (see Létoublon 1985: 181).

2.2 Goal-oriented and non-goal-oriented spatial particles as Path-encoding elements

In this section the spatial particles which co-occur with *théō, trékhō*, and *édramon* in the Homeric poems are shown. On the one hand, the goal-oriented particles found in the sample are *epí* 'to', *aná* 'upwards', *katá* 'downwards'. On the other hand, the non-goal-oriented particles are *diá* 'through', *hupó* 'under', *apó* 'from', *ek* 'out', *en* 'in', *hupér* 'over', *pró* 'in front', *pará* 'beside', *perí* 'around', *amphí(s)* 'around', *metá* 'between', *sún* 'with' (see Table 2):[8]

Table 2. Spatial particles (Ps) co-occurring with *théō, trékhō* and *édramon*

Goal-oriented Ps	**Non-goal oriented Ps**	
epí 'to'	*diá* 'through'	*pró* 'in front'
aná 'upwards'	*hupó* 'under'	*pará* 'beside'
katá 'downwards'	*apó* 'from'	*perí* 'around'
	ek 'out'	*amphí(s)* 'around'
	en 'in'	*metá* 'between'
	hupér 'over'	*sún* 'with'

Such particles can be used as an agglutinated preverb, a preverb in tmesis, or a preposition. In the next section (Section 3) the specific morphosyntactic status of each co-occurring particle will be analyzed in order to discover if there is any significant variation in distribution due to verb-inherent (a)telicity.

3. Textual analysis

3.1 *Théō* and *trékhō* vs. *édramon*: Variation in frequency of absolute forms

This section presents the results of the textual analysis. Data as presented in the Tables (3–5) refer to a count based on the *Iliad* and *Odyssey* combined. For space reasons, only a selection of the most significant examples will be discussed.[9] An overview of the Homeric distribution of the three verbs occurring with both goal-oriented and

8. Those few occurrences (8×) of *théō* in which Path is mainly encoded by an adverb (*eggúthen* 'nearby', 1×), by a case marker (genitive *pedíoio* 'through the plain', 4×) and by multiple preverbation (*hupekprothéō* 'run forth; overtake', 3×), as well as the occurrence of *trékhō* in which Path is encoded by an adverb (*ágkhi* 'near', 1×) are excluded. Although it has basically a comitative meaning ('with'), *sún* is included in the sample because it turns out to be related to specific motion events.

9. Translations are partly based on those by Murray (1946, 1946–47).

non-goal-oriented spatial particles is given, focusing on the difference between verbs occurring as absolute forms (without particles) and verbs occurring with Path-satellite particles (see Table 3):

Table 3. Distribution of *théō, trékhō, édramon* and co-occurring spatial particles

Verb	Inherent (a)telicity	Absolute	With Ps	Total
théō	[−telic]	50	31	81
trékhō	[−telic]	2	4	6
édramon	[+telic]	–	33	33

Data show a significant variation in distribution, especially with reference to the opposition between *théō* and *édramon; trékhō* is less representative occurring only six times in the whole Homeric poems, however, its behavior is comparable to that shown by *théō* (see below). In fact, the telic verb *édramon* always occurs with spatial particles (100%) and never as an absolute verb, i.e. without particles (0%), while the atelic *théō* occurs more commonly as an absolute verb (about 62%) than with spatial particles (about 38%). This evidence reveals a more natural semantic compatibility of the atelic motion verb *théō* to express an atelic motion event that does not need any Path-encoding element nor any reaching of endpoint by the Figure moving, as illustrated in (2).

(2) *hē* *dè* *mál' asphaléōs* ***théen*** *émpedon·*
DEM.NOM PTC very firmly run.IPFV.3SG without.resting
'And she (the ship) **ran** very firmly, constantly' (*Od*. 13.86)

To a lesser extent (because of the few occurrences), the same is also valid for *trékhō*, as illustrated in (3)

(3) […] *tò* *dè* ***trékhei*** *emmenès* *aieí*
DEM.NOM PTC run.PRS.3SG unceasing.NOM always
'And it (the beam/drill) **runs** unceasing ever' (*Od*. 9.386)

In both examples there is no information of Path, nor can it be retrieved by examining the larger context of the preceding verses, and the respective verbs *théō* and *trékhō* encode only information of Motion+Manner. Also, it is noteworthy that the durative adverbs *émpedon* in (2) and *emmenés* and *aieí* in (3) are clues of the atelic aspectual nature of *théō* and *trékhō*, since they correspond to syntactical tests for atelicity.[10] On the contrary, the lack of occurrences as an absolute verb reveals that

10. For further details about syntactic tests for telicity in ancient Indo-European languages, see Napoli (2006); Bartolotta (2017a).

telic *édramon* is intrinsically more compatible with encoding telic motion events that entail some Path encoding particles, as in (4).

(4) […] *hò d' **hup-édrame** kaì lábe goúnōn*
DEM.NOM PTC under-run.AOR.3SG and catch.AOR.3SG knee.GEN.PL
'And he/she **ran in under** and clasped (his) knees' (*Od.* 10.323 = *Il.* 21.68)

Besides the information of Motion+Manner encoded by the verb *édramon*, the Path in (4) is encoded by the particle *hup-* (*hupó*) 'under' as an agglutinated preverb. Furthermore, in (4) the Figure moving reaches the endpoint, as confirmed by clasping his knees (*lábe goúnōn*).

3.2 *Théō* and *trékhō* vs. *édramon*: Variation in spatial semantic values and morphosyntactic status of co-occurring particles

Focusing on the occurrences with particles, the distribution of both goal-oriented (see Table 4) and non-goal-oriented particles (see Table 5) co-occurring with *théō, trékhō* and *édramon* is shown. The particular morphosyntactic status of each particle (i.e. whether it is an agglutinated preverb, a preverb in tmesis, or a preposition) is also specified:

Table 4. Distribution and morphosyntactic status of Goal-oriented particles

Goal-oriented P	Status	*théō* [–telic]	*trékhō* [–telic]	*édramon* [+telic]
	preverb	–	2	11
epí 'to'	tmesis	–	–	–
	preposition	7	1	–
	preverb	–	–	8
aná 'upwards'	tmesis	–	–	1
	preposition	3	–	–
	preverb	–	–	–
katá 'downwards'	tmesis	–	–	–
	preposition	2	–	–

As can be seen from Tables 4–5, the three verbs occur with both goal-oriented and non-goal-oriented particles. However, an analysis of the contexts shows a variation with regard to the semantic value of these particles, depending on verb-inherent (a)telicity. Actually, although the atelic verbs *théō* and *trékhō* may co-occur with goal-oriented particles, it can be seen that such particles do not always assume a goal-oriented meaning. On the contrary, due to their typical semantic compatibility with telic verbs, the goal-oriented particles regularly preserve their goal-oriented meaning when occurring with the telic verb *édramon*. In the following Examples (5)–(8),

Table 5. Distribution and morphosyntactic status of Non-goal-oriented particles

Non-goal-oriented P	Status	*théō* [−telic]	*trékhō* [−telic]	*édramon* [+telic]
	preverb	–	–	1
perí 'around'	tmesis	6	–	1
	preposition	–	–	–
	preverb	–	–	3
pará 'beside'	tmesis	–	–	–
	preposition	3	–	–
	preverb	3	–	–
pró 'in front'	tmesis	–	–	–
	preposition	–	–	–
	preverb	1	–	–
amphí(s) 'around'	tmesis	1	–	–
	preposition	–	–	1
	preverb	–	–	2
hupó 'under'	tmesis	–	–	–
	preposition	–	–	–
	preverb	–	–	2
diá 'through'	tmesis	–	–	–
	preposition	–	–	–
	preverb	1	–	2
sún 'with'	tmesis	–	–	–
	preposition	–	–	–
	preverb	–	–	–
apó 'from'	tmesis	–	–	–
	preposition	2	–	–
	preverb	–	–	–
metá 'between'	tmesis	–	–	–
	preposition	1	–	–
	preverb	–	–	–
ek 'out'	tmesis	–	–	1
	preposition	–	–	–
	preverb	–	–	–
hupér 'over'	tmesis	–	–	–
	preposition	1	–	–
	preverb	–	1	–
en 'in'	tmesis	–	–	–
	preposition	–	–	–

it is possible to compare the different behavior of the same goal-oriented particle *epí* 'to; upon', which assumes a non-goal-oriented value with the two atelic verbs *théō* (5) and *trékhō* (6), while it assumes its prototypical goal-oriented value with the telic verb *édramon* (7)–(8).

(5) *ákron* ***epì*** ***rhēgmînos*** *halòs* *polioîo* ***théeskon***
on.the.top upon surf.GEN.SG salt.GEN.SG grey.GEN.SG run.IPFV.3SG
'(The horses) **ran on top of the surge** of the white sea' (*Il.* 20.229)

(6) *állote* *d'* *aû* ***thréxaskon*** ***epì*** ***stíkhas*** *allḗloisi*
at.another.time PTC again run.AOR.3PL upon line.ACC.PL RECP.DAT.PL
'Other times (dancers) **ran in lines**, one after the other' (*Il.* 18.602)

(7) *hò* *d'* ***ep-édrame*** *phaídimos* *Aías*
DEM.NOM PTC to-run.AOR.3SG glorious.NOM.SG Ajax.NOM.SG
'But glorious Ajax **ran towards** (him)' (*Il.* 5.617)

(8) *hoi* *mèn* *keklēgontes* ***ep-édramon***
DEM.NOM PTC making.sharp.sound to-run.AOR.3PL
'They (the dogs) barking **ran towards** (him)' (*Od.* 14.30)

In (5) and (6) the particle *epí* refers, respectively, to the surface on which the horses move and to the dancers forming a running line, thus showing a non-goal-oriented rather than a goal-oriented meaning; while in (7)–(8) *epí* refers to running towards somebody, thus showing a goal-oriented meaning.

Another example of how goal-oriented particles can not assume their goal-oriented meaning when occurring with an atelic verb is shown by the goal-oriented particle *katá* 'downwards' with *théō* in (9).

(9) *hē* *d'* ***étheen*** ***katà*** *kûma*
DEM.NOM PTC run.IPFV.3SG upon wave.ACC.SG
'She (the ship) **ran upon** the wave' (*Od.* 2.429 = *Il.* 1.483)

In (9), *katá* occurs as preposition and shows the non-goal-oriented meaning 'upon', referring to a surface on which the Figure moves, without any information about it reaching an endpoint.

Furthermore, the analysis of the different morphosyntactic status of the spatial particles reveals a non-random distribution of their functions due to the typical semantic compatibility between goal-oriented particles and telic verbs. In more detail, the goal-oriented particles *epí* and *aná* (see Table 4), which co-occur with both the atelic verb *théō* and the telic verb *édramon*, always occur as agglutinated preverbs with the telic *édramon* (except for only one case of tmesis with *aná*), thus revealing a strong morphosyntactic cohesion with the verb and a quite advanced stage of grammaticalization (see above, 1.2), such as *epí* in (7)–(8). On the contrary, the same goal-oriented particles always co-occur as prepositions with the atelic verb *théō*, thus revealing a lower cohesion with the verb and a less advanced stage of grammaticalization, such as *epí* in (5). As well as *epí* in (5) and (7)–(8), the same morphosyntactic behavior can be seen with regard to *aná*, which occurs as a preposition with *théō* in (10) and as an agglutinated preverb with *édramon* in (11).

(10) *prôtos* *d'* *antíos* *êlthe* ***théōn***
first.PRED.NOM PTC opposite.NOM come.AOR.3SG run.PTCP.NOM
anà ***dēïotêta***
through battle.ACC.SG
'(Aias) came first in front (of him), **running through the battle**' (*Il.* 17.257)

(11) […] ***an-édrame***, *míkto* *d'* *homílōi*
upwards-run.AOR.3SG mix.PASS.AOR.3SG PTC crowd.DAT.SG.
'(He) **ran backwards**, mixing with the crowd' (*Il.* 11.354 = 16.813)

Also, evidence for the advanced stage of grammaticalization between goal-oriented particles and telic verbs come from those cases in which the goal-oriented particle *aná* develops a non-compositional and less transparent meaning in compounding with the telic verb *édramon*, as shown in the formula in (12).

(12) […] *hò* *d'* ***an-édramen*** *érneï* *îsos·*
DEM.NOM PTC upwards-run.AOR.3SG sprout.DAT.SG like.NOM
'He (Achilles) **grew** like a sprout' (*Il.* 18.56 = 18.437)

Although *aná* does not lose its original meaning 'upwards', the new verbal formation *anédramon* in (12) assumes the less compositional meaning 'grew'.

4. Conclusion

The textual analysis of the Homeric distribution of *théō, trékhō* and the aorist *édramon* and their co-occurring spatial particles shows that verb-inherent telicity turns out to be a significant aspectual feature with regard to motion event encoding in HG. Indeed, telicity is responsible for a non-random distribution of spatial particles and their own semantic value, and for a stronger morphosyntactic cohesion between goal-oriented particles and telic motion verbs (also in terms of more advanced stage of grammaticalization) due to their mutual semantic compatibility.

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Language index

Subject index

The idea of this book on "Neglected Aspects of Motion-Event Description" comes from the observation that, over the last 30 years, much attention has been devoted to the manner/path divide in relation to the distinction between Verb-Framed and Satellite-Framed languages. This main-stream focus has left aside other aspects of motion event descriptions. The chapters of this volume take an in-depth look at three less-studied aspects of motion expression. The first part of the book focuses on directional deixis, especially in relation to associated motion and visual motion. The second part explores variations in Source-Goal asymmetries. The third part investigates different types of motion event constructions, e.g., with various types of co-events. Many languages are taken into consideration throughout the 11 chapters, which gives the volume a clear typological dimension. This book is intended for students and academics interested in motion, spatial semantics, typological variation and cognitive linguistics.

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