Georgakopoulos, Thanasis, and Holden Härtl. "Goal prevalence and situation types: An empirical analysis of differences in Greek and German motion event descriptions." *Contrastive Studies in Morphology and Syntax*. By Michalis Georgiafentis, Giannoula Giannoulopoulou, Maria Koliopoulou and Angeliki Tsokoglou. London: Bloomsbury Academic, 2020. 262–280. *Bloomsbury Collections*. EISBN: 978-1-350-07919-9. Web. 22 Jul. 2021. <http://dx.doi.org/10.5040/9781350079212.0024>.

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Goal prevalence and situation types: An empirical analysis of differences in Greek and German motion event descriptions

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The aim of the current study is to investigate crosslinguistic differences in the encoding of motion events and the distribution of their constituent parts, that is, the manner as well as the path focusing mainly on the Goal component. In the abundant literature on the effect of the lexicalization pattern of a language (Satellite- versus Verb-framed), only a few studies have systematically taken into account the specific properties of the situation underlying a verbalization. With a focus on German and Greek, we analyse verbal descriptions of motion events presented in video clips and link the linguistic characteristics of the different verbalizations to the salience of the Goal point. We find that in situations containing highly evident Goals towards which the motion is targeted, German speakers tend to realize Goals more often than Greek speakers. This finding is complemented with a crosslinguistic examination of the inventory for expressing manner and path of motion as well as by an analysis of the type of information expressed in the verbalizations. We discuss both in the context of the continuum between Satellite- and Verb-framed languages.

1 Introduction

Crosslinguistic differences are a central aspect in cognitively oriented analyses of the encoding of motion events, as well as their conceptualization. A broad spectrum of factors is discussed ranging from the lexicalization pattern of a language and the distribution of path and manner expressions across languages (see e.g. Slobin 1997, 2004; Talmy 2000, among many others) to grammatical viewpoint aspect (see e.g. Athanasopoulos and Bylund 2013; von Stutterheim and Nüse 2003; von Stutterheim et al. 2012; von Stutterheim, Bouhaous and Carroll 2017) as well as the interplay between these factors (see Georgakopoulos, Härtl and Sioupi 2019). In this context, the linguistic realization of motion Goals is of particular interest as it represents a primary conceptual notion, which is reflected, for example, in the bias to encode Goals

of motion in comparison to Sources (see e.g. Ikegami 1987; Landau and Zukowski 2003; Lakusta and Landau 2005; Papafragou 2010; Kopecka and Narasimhan 2012; Luraghi, Nikitina and Zanchi 2017; Georgakopoulos 2018).

So far, however, only a few studies, among them von Stutterheim, Bouhaous, and Carroll (2017), have implemented as variables the specific properties of the situation underlying a verbal description. This is a gap our study aims to fill from a comparative point of view by systematically linking the linguistic realization of Goals with types of situations, instantiated as video clips and the corresponding motion verbs. With a focus on Modern Greek (henceforth Greek) and German, we aim at a fine-grained empirical analysis of the linguistic options the two languages can use when expressing Goals, with the intention to contribute to the definition of the locus of these languages on the continuum between Satellite- and Verb-framed languages (henceforth S-framed and V-framed languages, respectively).

We will start from the assumption that the lexicalization pattern of a language is a stronger predictor for the inclusion of a Goal expression in descriptions of motion events than the presence of grammatical viewpoint aspect. This insight is based on results from an experimental study, in which we compared auditory verbalizations of motion events accumulated for English, Greek and German on the basis of video clips (see Georgakopoulos, Härtl and Sioupi 2019). In this chapter, thus, we now exclude grammatical viewpoint aspect as a variable and concentrate on Greek and German for our comparative analysis of the collected data. Drawing on von Stutterheim, Bouhaous, and Carroll (2017), we follow a tripartite subdivision of the clips based on the visual salience of the Goal region. We hypothesize that visual salience of the Goal is a factor that influences attention to details of motion events. We complement our endeavour with a crosslinguistic examination of the inventory used to express manner and path of motion, as well as the distribution of peripheral elements used to express the path in light of the different lexicalization patterns Greek and German exhibit.

The structure of this chapter is as follows: In Section 2, we consider aspects of the prominence of Goals in connection to the different lexicalization patterns German and Greek display and in Section 3, we briefly report on data from an experimental study we previously conducted. In Section 4, the clips used in the study are then classified according to the visual salience of the Goal of the motion event. An analysis of (a) the inventory used for realizing the different meaning components involved in motion events and (b) the distribution of the different meaning components involved in a motion event across the clause complements our investigation. Section 5 concludes.

2 Goal prominence and the lexicalization pattern

Talmy (2000) suggested a two-way typology of motion event constructions according to which the world's languages are divided into S- and V-framed languages (cf. Slobin 2004). Talmy's dichotomy relates to where the information about the path of motion is encoded in a sentence. In S-framed languages, such as Dutch, English or Russian, path is systematically expressed outside the verb root, that is, in satellites, usually by means

of prefixes, prepositional phrases or adverbs. Manner of motion is usually encoded in the verb in this type of languages. This is illustrated in (1) from English.

(1)	A man	is walking	into	a church.
	Figure	manner	path	Ground

On the other hand, in V-framed languages, such as French, Spanish or Turkish, path is typically encoded in the verb and manner either is omitted (example (2)) or appears elsewhere in the sentence (example (3)). These two possibilities are exemplified in (2)–(3) from Greek.

(2)	Ένα λεωφορείο	διασχίζει	το δρόμο.
	A bus	cross:PRS.3SG	the street
	Figure	path	Ground
	'A bus crosses the street.'		

(3)	Ένας σκύλος	μπαίνει	σε ένα κτίριο	τρέχοντας.
	A dog	enter:PRS.3SG	at/to a building	run:PTCP
	Figure	path	Ground	manner
	Lit. 'A dog is entering a building by running.'			

Research in spatial semantics in the last fifteen years has highlighted the fact that S-framed and V-framed constructions can co-exist in a language (see e.g. Slobin 2004; Beavers, Levin and Tham 2010; Croft et al. 2010). This does not mean that the Talmian dichotomy is necessarily wrong; rather it suggests that there is within-type variation in both S-framed and V-framed languages. This variability may be better described as a continuum (see Montero-Melis et al. 2017: 54 and references therein). It also moves the focus from the question of whether categorical differences exist to the question of which encoding options are preferred by the speakers of a particular language and in which situations.

In Greek, both S-framed and V-framed constructions are available, as exemplified in (4), in which one can find the manner being expressed in the verb (cf. example (3)).

(4)	Ένας σκύλος	έτρεξε	μέσα	στο κτίριο.
	A dog	ran.PFV.3SG	inside	at/to the building
	Figure	manner	path	Ground
	'A dog ran into the building.'			

Despite the availability of both constructional types, Greek is usually listed as an example of a V-framed language, because it shows a preference for V-framed encoding options (see e.g. Papafragou, Massey and Gleitman 2006; Selimis 2007; Papafragou and Selimis 2010; Selimis and Katis 2010; cf. Talmy 2000: 66–7; Soroli 2012; Soroli and Verkerk 2017). Conversely, German motion events are typically encoded by S-framed

constructions and, thus, German is categorized as S-framed language (see e.g. Berthele 2006).

What is important for the purpose of the current study, is that S- and V-framed languages have been reported to differ in the degree of the Goal prominence as Goal expressions, namely peripheral elements that occur outside the verb and encode the endpoint of motion, are included in motion descriptions more often in the former than in the latter. More specifically, some studies have reported a general path bias in S-framed languages,[1] which results from the tendency of speakers of those languages to express path information outside the verb as compared to speakers of V-framed languages, who are more prone to encode the path in the verb root (see Slobin 1996; Johanson and Papafragou 2010). These studies have shown that in S-framed languages, Goal information prevails as well a prevalence which is seen as an epiphenomenon of the path bias. Another study by Georgakopoulos and Sioupi (2015), which has focused on Change of Possession events, has demonstrated that German manifests a more robust Goal bias compared to Greek. In this case, the endpoint is favoured independently of the general path bias.

3 The empirical study: The old design

In the literature on crosslinguistic differences in the conceptualization of motion events and their verbalization, an additional factor – beyond the specific lexicalization a language exhibits – that has been discussed as relevant to have an impact on the inclusion of Goal expressions, is the presence of grammatical viewpoint aspect (see Athanasopoulos and Bylund 2013; Schmiedtová, von Stutterheim and Carroll 2011). To test the strength of the two factors, namely of the lexicalization pattern and of the grammatical viewpoint aspect, and investigate their interdependency, in Georgakopoulos, Härtl and Sioupi (2019) we conducted an experimental study, in which we collected event descriptions from German, English and Greek, three languages that differ from each other with respect to at least one property that has been reported to influence the mentioning of Goals (English: aspect and S-framed language; German: non-aspect and S-framed language; Greek: aspect and V-framed language). We repeat here the most basic information concerning the methodology used as well as the most relevant results for the purpose of this chapter.

Sixty native speakers of English, German and Greek participated in the study. Following the protocol designed by von Stutterheim et al. (2012), the stimulus material was divided into two major types, a GOAL NOT REACHED type and a GOAL REACHED type. The former showed a figure moving along a trajectory and towards a goal. These were the critical clips (N=10). The latter consisted of motion events in which the figure actually reaches a goal. These were used as controls (N=10). Ten clips depicting dynamic, though non-motion events were used as fillers. Items from the two conditions were presented in a between-subjects design; that is, participants from the different language groups were exclusively presented either with the critical clips or with the controls.

In the GOAL REACHED group, participants were asked to briefly describe the events they were about to watch after the end of each video and after the speaker symbol (introduced to them in the instruction) appeared on the screen. In the GOAL NOT REACHED group, participants were asked to describe the event shown right after the beginning of each video.

All verbalizations were digitally recorded, transcribed and encoded for the inclusion of Goal expressions. The statistical analysis for the differences in all verbalizations (*N*=586) across the group means revealed a significant main effect for CONDITION such that, across the three languages tested, more Goals were mentioned in the GOAL REACHED condition (*N*=250) than in the GOAL NOT REACHED condition (*N*=94). Furthermore, an effect of LANGUAGE was observed such that, with the two conditions again taken together, more Goals were included in the descriptions in German (*N*=134) than in Greek (*N*=98). The difference between German and English did not reach the conventional level of significance nor did the difference between Greek and English. A significant interaction between LANGUAGE and CONDITION was observed. Planned pairwise comparisons for the critical condition indicated a significant difference between German and Greek as well as English and Greek, with more Goal expressions noted in English (*N*=39) and German (*N*=42) than in Greek (*N*=12). No significant difference was observed between the two S-framed languages.

Our finding is compatible with a view that holds that the lexicalization pattern of a language has a stronger impact on the realization of Goals. This is reflected in the grouping of English and German versus Greek. Our results do not indicate a systematic effect of the presence of aspect on the inclusion of Goals in the event descriptions we elicited. Consequently, in the following, we ignore aspect as a variable. Instead, we concentrate on the lexicalization pattern and, in particular, on the differences between S-framed and V-framed languages. For the crosslinguistic comparison, we choose Greek and German, excluding English, given the non-difference between English and German (the choice between the two S-framed languages being random).

4 The empirical study: A new analysis

As mentioned in Section 3, in Georgakopoulos, Härtl and Sioupi (2019), we followed the bipartite distinction of the stimulus material – found in von Stutterheim et al. (2012) – into a GOAL NOT REACHED type and a GOAL REACHED type. However, within the GOAL NOT REACHED condition, the clips included goal points with varying salience, a factor that we assume to further affect the explicit expression of the realization of goals of motion in linguistic descriptions. Thus, we hypothesize that the visual salience of the goal would influence attention to details of motion events and, possibly, would be reflected in default verbalization of the languages under discussion.

Table 15.1 Classification of the Displayed Situations

Event type	Situation type
a. Woman towards church	Type A
b. Woman towards stop	Type A
c. Woman towards booth	Type A
d. Woman towards bench	Type A
e. Man towards car	Type A
f. Man towards building	Type A
g. Car towards village	Type B
h. Car towards church	Type B
i. Couple towards village	Type B
j. Bus towards village	Type B
k. Man into church	Type C
l. Horse into stall	Type C
m. Car into garage	Type C
n. Van into yard	Type C
o. Kid into playground	Type C
p. Cat into room	Type C
q. Woman into shop	Type C
r. Woman into station	Type C
s. Horseman into stall	Type C
t. Dog into house	Type C

Event types appear in small capitals. All examples reported in the paper will make reference to the situation type to which they belong as well as to the event type they represent (e.g. [Type A/a] for a description of a clip showing a woman walking towards a church).

To test the impact of this additional factor, we subdivided the clips belonging to the first condition to two types. In doing so, we relied on von Stutterheim, Bouhaous and Carroll (2017), who distinguish between events that show a figure 'moving along a short trajectory […] towards a highly evident goal point marked by an object' (Type A) and events in which a figure moves 'along an extended trajectory with a potential, but not an evident goal point' (Type B). The Goal reached condition will be henceforth referred to as Type C. Table 15.1 shows the result of this classification: six clips belong to Type A situations, four to Type B and ten to Type C. Figure 15.1 illustrates the three different types with examples of stills from the stimuli, split into three different phases, a beginning, an intermediate and a final phase. The first clip shows a woman moving towards a church (a highly evident goal point). The second clip depicts a couple walking down a road towards a village (a potential, not evident goal). Finally, the third clip shows a man walking into a church (boundary crossing).[2]

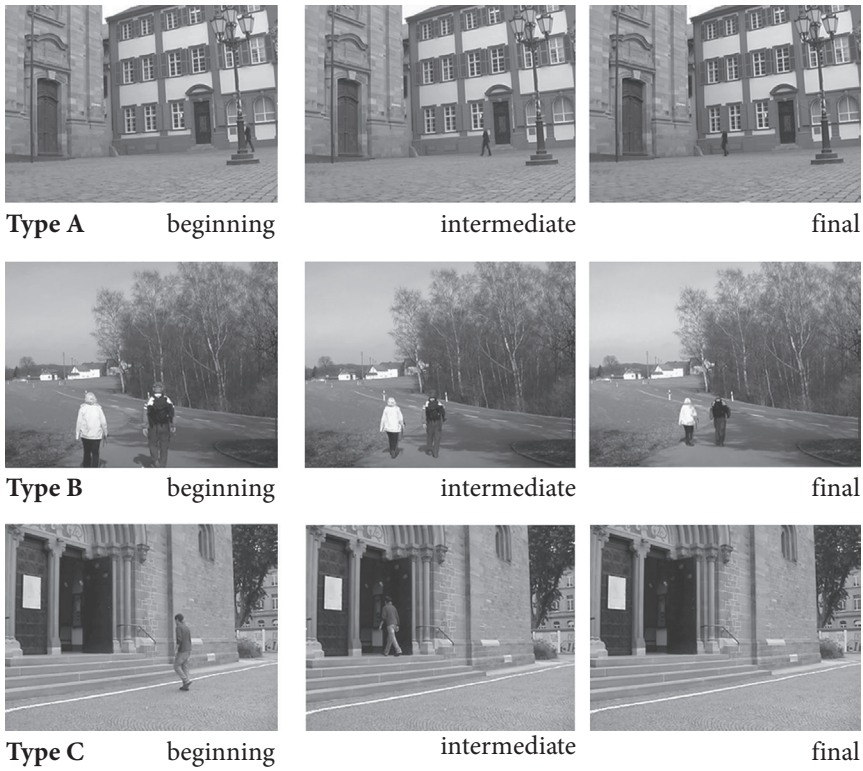

Figure 15.1 The three types of motion events.

4.1 Results

4.1.1 Goal realization in Greek and German

Table 15.2 lists the numbers of verbalizations from both German and Greek speakers that included reference to an endpoint – for each motion event as well as each type separately. Note that in some cases the participants failed to provide a description that involved a motion event. For that reason, we also give the number of valid tokens for each clip individually (e.g. 9/10 GER means that 9 out of 10 descriptions given by German speakers were valid; conversely, all descriptions by Greek speakers were valid).

Three main observations can be drawn from the data reported in Table 15.2. First, in almost all clips in which there is a difference in Goal mentions, the difference is in favour of the German group. Second, one can observe that within Type A situations there is variation in Goal preference. On the one hand, in most motion events (four out of six) German speakers mention more often the Goal than Greek speakers. On the other hand, there are some cases (two out of six) in which the two groups exhibit the same endpoint frequencies. For example, in the event in which a woman is walking towards a church, both groups generally omit the Goal. The omission of the Goal

Table 15.2 Mentions of Endpoints for Greek and German per Motion Event

Motion events	Situation type	Valid	Greek Goal	German Goal
a. Woman towards church	Type A	10	2	2
b. Woman towards stop	Type A	10	0	9
c. Woman towards booth	Type A	9/10 GER	4	8
d. Woman towards bench	Type A	10	0	6
e. Man towards car	Type A	10	1	6
f. Man towards building	Type A	10	5	6
g. Car towards village	Type B	7/10 GR	0	2
h. Car towards church	Type B	9/10 GR	0	1
i. Couple towards village	Type B	10	0	1
j. Bus towards village	Type B	7/10 GR	0	1
k. Man into church	Type C	10	9	9
l. Horse into stall	Type C	10	9	10
m. Car into garage	Type C	10	9	10
n. Van into yard	Type C	10	10	9
o. Kid into playground	Type C	10	9	10
p. Cat into room	Type C	10	5	9
q. Woman into shop	Type C	10	9	9
r. Woman into station	Type C	10	8	9
s. Horseman into stall	Type C	10	8	8
t. Dog into house	Type C	10	10	9

When we don't report the N of the valid tokens in a language, it means that all responses are valid. For example, in [Type A/c] situations there were 10 valid tokens in Greek and 9 in German.

might be the result of the fact that, in this case, it is not so obvious that the motion will end up at the targeted Ground, that is, the church. The whole clip highlights the woman's crossing of the square. Consider the following answers from the two groups:

(5) Eine Frau geht über einen Platz.
A woman walk:PRS.3SG across a square
'A woman is walking across a square.' *(Type A/a)*

(6) Eine Frau läuft durch die Straße.
A woman walk:PRS.3SG through the street
'A woman is walking through the street.' *(Type A/a)*

(7) Μια γυναίκα περπατάει.
A woman walk:PRS.3SG
'A woman is walking.' *(Type A/a)*

(8) Μια γυναίκα περπατάει σε ένα δρόμο.
A woman walk:PRS.3SG at/to a road
'A woman is walking on a road.' *(Type A/a)*

Conversely, in the clip showing a man heading towards a building, both groups generally express the Goal of motion. This situation is closer to a Type C situation: the final phase of the clip shows a man climbing up the stairs, thus increasing the probability that he will ultimately enter the building. This is evidenced by the fact that some speakers construed the situation as a cross-boundary one.

(9) Ein Mann läuft in ein Haus rein.
A man walk:PRS.3SG into a house PRN-in
'A man is walking into a house.' *(Type A/f)*

(10) Ein Mann geht in ein Gebäude.
A man walk:PRS.3SG into a building
'A man is walking into a building.' *(Type A/f)*

(11) Εδώ είναι ένας κύριος ο οποίος ανεβαίνει μια σκάλα.
here is a man who ascend:PRS.3SG a staircase

για να μπει σε ένα κτίριο.
in order enter:PRS.SUBJ.3SG at/to a building
'There is a man climbing up the stairs to enter a building.' *(Type A/f)*

Third, the data in Table 15.2 suggest that both language groups behave homogenously in Type B and Type C situations. More specifically, in Type B, speakers chose not to explicitly express the Goal of motion (see examples (12)–(13)), whereas in Type C they generally included the endpoint of motion in their descriptions (see examples (14)–(15)).

(12) Ein Auto fährt eine Straße entlang.
A car drive:PRS.3SG a street along
'A car is driving along a road.' *(Type B/g)*

(13) Ένα αυτοκίνητο διασχίζει ένα χιονισμένο δρόμο.
A car cross:PRS.3SG a snowy road
'A car crosses a snowy road.' *(Type B/g)*

(14) Ein Kind geht auf den Spielplatz.
A child go:PRS.3SG on the playground
'A child goes to a playground.' *(Type C/o)*

(15) Ένα παιδάκι μπήκε στην παιδική χαρά.
A little.child entered:PFV.3SG at/to the playground
'A child goes into the playground.' *(Type C/o)*

Table 15.3 Mentions of Endpoints per Situation Type

Situation Type	Greek	German
Type A	12 (20%)	37 (62.7%)
Type B	0 (0%)	5 (12.5%)
Type C	86 (86%)	92 (92%)

In both groups, the differences between the two languages are not significant (Type B: $\chi^2(1)=.059$, *n.s.*;[3] Type C: $\chi^2(1)=1.83$, *n.s.*). This means that the overall difference between the two languages reported in Section 3 was dependent on Type A situations ($\chi^2(1)=22.4$, $p< .01$). This is shown in Table 15.3, which sums the values for each situation type collectively.

In Georgakopoulos, Härtl and Sioupi (2019: 302), we suggested that the observed difference between German and Greek 'could be attributed to certain properties of the languages' lexicalization patterns and, in particular, to the different coding strategies that each language allows'. Given the result obtained by the new categorization of the situations, what we can add to this claim is that the realization of Goals in motion event descriptions is sensitive to the salience of the goal point towards which the motion is targeted. When the goal point is not evident (Type B), both groups ignore the Goal. When there is a boundary crossing (Type C), both groups express the Goal. But when the goal point is highly evident (Type A), German speakers are more prone to express the Goal than Greek speakers.

We should repeat at this point that by goals of motion, we mean the peripheral elements that occur outside the verb and encode the endpoint of motion (and not the verbs that can profile the endpoint of motion, such as *arrive* and *reach*). This clarification is important because it comes with a cost when comparing S-framed languages to V-framed ones: the former have an advantage over the latter when it comes to Goal realization, because S-framed languages typically express path information – and as a consequence Goal – in other-than-the-verb elements, whereas V-framed generally in the verb (see also Section 2).

In most cases, German speakers produce semantically more dense descriptions in that they include both the manner and the path throughout their verbalizations more often than Greek speakers. In the critical clips (i.e. in Type A situations), German speakers almost consistently chose to describe the motion events by means of S-framed constructions, using a rigid subject-verb schema involving indefinite NPs, as in *Ein Auto fährt in eine Garage* ('A car is driving into a garage'; *Type C/m*), and the present tense form of the verb. V-framed strategies were only sporadically used by German speakers, cf. *Ein Mann betritt eine Kirche* ('A man is entering a church'; *Type C/k*). In contrast, Greek speakers employ many different strategies. They use: (a) bare manner verbs; (see example (7)); (b) manner verbs together with relators that express general localization (example (8)); (c) manner verbs together with dynamic relators denoting the Goal (example (16)); (d) paths verbs without any relators (example (17)); (e) path verbs with relators that express general localization (example (18)); (f) path verbs with dynamic relators denoting the Goal (example (19)); (g) a main path verb together with another path verb as a subordinate element (see example (11)).

(16) Βλέπω μια γυναίκα να περπατάει
See:PRS.1SG a woman to walk:PRS.3SG

προς έναν τηλεφωνικό θάλαμο.
towards a phone booth
'I see a woman walking towards a phone booth.' *(Type A/c)*

(17) Ο κύριος ανεβαίνει τις σκάλες.
The man ascend:PRS.3SG the stairs
'The man is climbing up the stairs.' *(Type A/f)*

(18) Ένας άνδρας προχωράει στο δρόμο.
A man advance:PRS.3SG at/to the road
'A man is moving on a road.' *(Type A/e)*

(19) Μια κυρία που κατευθύνεται προς ένα σπίτι.
A lady that head:PRS.3SG towards a house
'A woman that is heading towards a house.' *(Type A/c)*

4.1.2 Inventories of verbs and peripheral elements

Table 15.4 and 15.5 below list the different verbs uttered by the Greek and German participants during the verbalization task in both conditions. These are categorized in two types, *path* and *manner* verbs:

The most striking difference between the two language groups is in the number of path verbs used. Greek speakers were found to produce more path verbs (N_{GR}=11) in their motion event descriptions than German speakers (N_{GER}=1). This is consistent with what we know about motion event descriptions in Greek and German (see Papafragou, Massey, and Gleitman 2006; Papafragou and Selimis 2010; Verkerk 2013, among others). In contrast, both groups contain a high proportion of manner verbs (N_{GR}=10 versus N_{GER}=11), which is unexpected given the different systems of the two languages (cf. Papafragou, Massey and Gleitman 2006: B85 for the distribution of manner verbs in English and Greek). However, as has been shown in previous research, 'cross-linguistic differences in speech habits are more likely when measured in tokens of expressions – above all, verbs – relative to types' (Selimis and Katis 2010: 70). Indeed, to anticipate

Table 15.4 Types of Verbs Used in Greek

Manner	Path
καβαλάω 'ride'	*προχωρώ* 'advance'
ιππεύω 'ride'	*κατευθύνομαι* 'head for'
οδηγώ 'drive'	*εισέρχομαι* 'enter'
περπατώ 'walk'	*πάω* 'go'
στρίβω 'turn'	*διασχίζω* 'cross'
τρέχω 'run'	*κινούμαι* 'move'
παρκάρω 'park'	*περνώ* 'pass'
περιφέρομαι 'roam around'	*μπαίνω* 'enter'
περιτριγυρίζω 'move around'	*ανεβαίνω* 'ascend'
βαδίζω 'walk'	*βγαίνω* 'exit'

The list does not include periphrases such as *πάω μια διαδρομή* ('I am doing (lit. going) a route.') or *πάω περίπατο* ('I am going for a walk.').

Table 15.5 Types of Verbs Used in German

Manner	Path
fahren 'drive'	*betreten* 'enter'
laufen 'walk'	
gehen 'go'	
spazieren 'walk'	
wandern 'wander'	
steigen 'climb'	
schreiten 'step'	
rennen 'run'	
eilen 'rush'	
reiten 'ride'	
parken 'park'	

Table 15.6 List of Goal Elements Accompanying the Motion Verbs of the Study

Category	Language	
	German	**Greek**
Adpositions (simple or complex)	*in NP* 'into NP' *auf NP* 'to NP' *in Richtung NP* 'towards NP' *zu NP* 'towards NP'	*προς NP* 'towards NP' *σε NP* 'at/to NP' *μέσα σε NP* 'in + at/to NP'
Adverbs	*hinauf* 'up' *hinein* 'in' *rein* 'in' *hoch* 'up'	
Particles	*zu* 'to' *ein* 'in'	

the results in Section 4.1.3, the type frequency of manner verbs differs significantly between German and Greek (see also Georgakopoulos, Härtl and Sioupi 2019).

There are dissimilarities between the two languages also with regard to the peripheral elements used to express the path (more specifically the Goal of motion). Table 15.6 shows that Greek speakers use fewer elements than German speakers (see Johanson and Papafragou 2010, among others, for the difference between English and Greek; cf. Aske 1989 for English versus Spanish path satellites). Additionally, the latter group employs more strategies for the expression of Goal (or other portions of the Source-Medial-Goal schema), since they rely on adpositions (e.g. *zu* + NP), adverbs that encode the general path of the event (e.g. *hinein*), or other particles that can be attached to the verb (e.g. *ein*).

4.1.3 The type of information expressed in the verbalizations

In Section 4.1.1, we correlated situation types with Goal realizations in the two languages. In this Section, we will analyse the verbalization data with respect to the distribution of the different meaning components involved in a motion event across the clause. For this purpose, all data were coded according to whether the description included: only the manner of motion (M); only the path (P); both manner and path in a single clause (MP); both manner and path in more than one clauses which were either juxtaposed or coordinated (M/P); some other information not related to a motion event (∅) (see Fagard, Stosic and Cerruti 2017; Soroli and Verkerk 2017). Following Fagard, Stosic and Cerruti (2017: 649), we hypothesize that German being a S-framed language will bundle manner and path in a single sentence ([MP] type), while Greek as a V-framed language will either omit manner or path ([M] and [P] types or will distribute the information on manner and path over different clauses.

Table 15.7 presents the overall result stemming from the above categorization. The displayed differences are significant ($\chi^2(1) = 287.3$, $p < .001$) and the data reveal that the bundling of manner and path in one clause is significantly higher in German than in Greek. Additionally, Greek speakers tend to produce either path-only or manner-only sentences (N_{GR}=166 versus N_{GER}=14, $\chi^2(1) = 231.6$ $p < .001$). Both results confirm Fagard, Stosic and Cerruti's (2017) hypothesis. Finally, when Greek speakers express both manner and path, they use two strategies equally frequently: either they encode both in one clause (see example (16)) or they split the two types of information into two clauses (see example (11)). The former finding shows that S-framed constructions are indeed available for Greek, as has been shown in the relevant literature (see e.g. Selimis and Katis 2010; Soroli 2011, 2012; Soroli and Verkerk 2017), whereas the second finding is in accord with the V-framed lexicalization pattern.

Table 15.8 breaks down this result across situation Types. German speakers are consistent across all three groups in producing semantically dense [MP] descriptions. Greek speakers are also consistent in that they mention only one type of information, be it either path or manner. At a closer look, we can see that there is a substantial difference among the three types in Greek: in Type A there is a bias towards manner descriptions; in Type B manner-only and path-only descriptions are equally represented and; in Type C there is a bias towards path descriptions.

Note that the preference of Greek speakers for only manner verbalizations in Type A situations is not entirely atypical for V-framed languages. What is relevant in this

Table 15.7 Proportion of [MP] versus [M] versus [P] versus [M/P] Descriptions for Greek and German

	Category				
Language	**P**	**M**	**MP**	**M/P**	**∅**
German	6 (3%)	8 (4%)	180 (91%)	1 (0.5%)	3 (1.5%)
Greek	96 (48%)	70 (35%)	12 (6%)	11 (5.5%)	11 (5.5%)

Note that if a description includes more than one path verb, we considered this description as including one single path.

Table 15.8 Proportion of [MP] versus [M] versus [P] versus [M/P] Descriptions for Greek and German per Situation Type

Type A					
Language			**Category**		
	P	**M**	**MP**	**M/P**	**∅**
German	0 (0%)	2 (3.3%)	56 (93.3%)	0 (0%)	2 (3.3%)
Greek	13 (22%)	38 (64.4%)	2 (3.4%)	6 (10.2%)	0 (0%)
Type B					
Language			**Category**		
	P	**M**	**MP**	**M/P**	**∅**
German	0 (0%)	4 (10.3%)	35 (89.7%)	0 (0%)	0 (0%)
Greek	14 (35.9%)	15 (38.5%)	0 (0%)	0 (0%)	10 (25.6%)
Type C					
Language			**Category**		
	P	**M**	**MP**	**M/P**	**∅**
German	6 (6%)	2 (2%)	89 (89.9%)	1 (1%)	1 (1%)
Greek	69 (68.3%)	17 (16.8%)	10 (9.9%)	4 (3.96%)	1 (1%)

respect is that both S- and V-framed languages seem to have 'neutral everyday verbs' (see Slobin 1997: 459), to which they can resort on several occasions (e.g. when the scene to be described prompts the expression of manner). In all [M] type descriptions in Type A situations, Greek speakers use the translational equivalent of such a neutral everyday verb, that is, of *walk*. Additionally, they accompany very often these verbs with non-dynamic relators that express general localization (in 28/38 tokens; cf. Soroli and Verkerk 2017: 34). Finally, it is worthwhile to note that, although manner descriptions dominate within Type A, paths are also frequently included in the speakers' verbalizations (N=19).[4] Such descriptions are absent in the sentences produced by the German speakers.

5 Conclusions

This study demonstrates that differences in lexicalization patterns have certain ramifications for the linguistic choices made by speakers. In a previous study, we found that the lexicalization pattern is a stronger predictor than grammatical aspect for the realization of Goal expression in the description of a motion event. Our findings were based on the bipartite distinction into Goal reached and Goal not reached motion events. The current study shows that, although the differences between languages occur in Goal not reached motion events, within this type of events there is structured variation. This internal variation is being captured by the new tripartite subdivision of the clips (Type A, B, and C), which splits the Goal not reached condition into

two different situation Types. This new subdivision is based on the visual salience of the Goal region towards which the motion is targeted (Type A: Goal salient versus Type B: Goal not salient).

Our findings reveal that both language groups behave homogenously in Type B and Type C situations and that the overall difference between the two languages comes from Type A situations. In the clips that contain a highly evident Goal, German speakers produce a higher proportion of Goals than Greek speakers. We attribute this difference to the advantage of the former over the latter as far as the realization of the Goals in peripheral elements is concerned, which is linked to the fact that S-framed languages typically express path information in satellites. Thus, we conclude that it is the typological distinction between S-framed and V-framed which gives us an answer as to why Goals are more prevalent in German. But the sensitivity to this typological distinction is activated under certain circumstances, which are determined by the salience of the Goal point towards which the motion is targeted.

In a second step, the question that arose concerned the distance in framing between German and Greek, as reflected in the responses of the participants in our experiment. Our data confirm prior evidence about the linguistic behaviour of S-framed and V-framed languages, suggesting that the two languages are quite distinct. As a matter of fact, adhering to S-framing, German speakers bundle manner and path in a single clause, whereas Greek speakers were found to produce a large number of path-only and manner-only utterances. Additionally, there was an imbalance in the lexico-grammatical elements used by the two language groups, with Greek speakers using fewer peripheral elements but more verbs for the expression of path than German speakers. The two groups show balance at the type level regarding the use of manner verbs. How far the crosslinguistic contrasts we observed are related to general cognitive differences between German and Greek speakers regarding the informational density of utterances and their underlying conceptual representations is a subject for further investigation.

Acknowledgements

We would like to thank the editors and two anonymous reviewers for their comments. Thanks are also due to Stathis Selimis and Athina Sioupi for commenting on drafts of the article and to Melina Heinrichs for the technical support. Early versions of this work were presented at the 'International Contrastive Linguistics Conference 8' which was held at the University of Athens (25–28 May 2017) and the 'Language Comparison and Typology: German and the Mediterranean languages' workshop, which was held at Humboldt University of Berlin (12 October 2018). We would like to thank the audiences of both meetings for their helpful comments.

Notes

1 For example, Slobin (1996: 199–201) shows that English speakers include ground objects more frequently than Spanish speakers when they describe scenes of downward motion, such as a scene showing an object falling in the water.

2 We wish to thank Christiane von Stutterheim for letting us use the material for the current study.
3 In Type B situations, we used Fisher's exact test, since the sample size was small.
4 This number includes both [p] and [m/p].

Abbreviations

PRN	Pronominal element
PRS	Present
PTCP	Participle
SUBJ	Subjunctive
PFV	Perfective aspect
3SG	3rd person singular

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