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Goal realization: An empirically based comparison between English, German and Greek[1]

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Drawing upon recent insights into the role of Goal preference as reflector of cross-linguistic differences, this paper investigates the factors affecting the realization of Goals in motion event descriptions. In particular, it examines the interplay between the lexicalization pattern of a language, on the one hand, and grammatical viewpoint aspect, on the other – factors which have commonly been treated in isolation. In so doing, three typologically distinct languages were examined: English, German and Greek. The empirical basis of this paper includes: (a) a corpus study, in which we examined the distribution of Goals in a small set of verbs, and (b) an experimental verbalization study, from which we elicited descriptions of different motion event types. While the former does not give a clear picture concerning the cross-linguistic differences in Goal prominence, the latter indicates that lexicalization pattern assumes a more prominent role than grammatical viewpoint aspect in affecting Goal realization.

Keywords: Goals of motion, lexicalization patterns, grammatical viewpoint aspect, corpus data, language production, English/German/Greek

1. Introduction

The linguistic construal of motion is a central topic in the cognitively-oriented literature on the encoding of events and their conceptualization. In this context, a broad spectrum of event-structural factors is discussed, ranging from lexical and grammatical aspect, the prominence of Goals of motion over Sources to language-specific properties associated with verb framing. But while these variables are commonly examined in isolation, to date, only a few studies have investigated them in their interplay from a cross-linguistic

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perspective. The current study contributes to filling this gap with a focus on Goals[2] of motion, as the notion of Goal is particularly suitable for a better understanding of the interdependence of conceptual semantics and linguistic expression, including lexical semantic typology and even aspects of linguistic relativity. Against this background, we examine the interplay between the lexicalization pattern of a language, on the one hand, and grammatical viewpoint aspect, on the other, and their impact on the linguistic realization of motion Goals, reflecting, thus, the grammatical inclusion of an event endpoint. Crucially, to be able to form a conclusive picture, we include in our analysis data from English, German, and Greek, i.e. data from three typologically distinct languages that differ with respect to their lexicalization pattern and/or the expression of grammatical viewpoint aspect (see Section 2 for more details). A main objective of the current paper is to utilize empirical evidence in answering our research question on the cross-linguistic differences in Goal prominence. For this purpose, we conducted a corpus study as well as an experimental verbalization study. The results indicate that lexicalization pattern and grammatical aspect do not have an additive effect; rather the weight of each factor is different as is evident from the different clusters formed by the different languages: English and German cluster together, while Greek does not cluster with either English or German. The consequences of this clustering constitute the major contribution of this paper.

The structure of this paper unfolds as follows. In Section 2, we consider aspects of the linguistic realization of Goals of motion from a cross-linguistic perspective and we discuss the two following categories: the lexicalization pattern of a language and grammatical viewpoint aspect. In Section 3, we analyze data from a pilot corpus study. In Section 4, we report on results from an experimental study, in which we compare auditory verbalizations of motion events accumulated on the basis of video clips. Section 5 concludes our examination.

2. Goal realization from a cross-linguistic perspective

Goals of motion and the role of Goal preference as reflector of cross-linguistic differences have recently gained increased attention in the language-of-space literature. One important factor, discussed in the literature, determining Goal preference is grammatical viewpoint aspect. A second factor that has been described to be involved in the linguistic realization of Goal expressions is the lexicalization pattern of a language regarding the coding of motion. Assuming that (a) grammatical viewpoint aspect and (b) lexicalization pattern affect the realization of goals, we can expect an interdependency of the two factors to

[2] We use the term "Goal" interchangeably with the term "endpoint" to refer to the (potential) final point of motion. Following similar studies, these terms encompass not only instances in which the figure finally reaches this point, but also instances in which the figure simply heads towards it (see, e.g., von Stutterheim *et al*., 2009).

occur in processes related to event conceptualization. In order to investigate the interdependence of these factors, languages that exhibit different combinations of these properties should be compared. Thus, our choice to focus on English, German, and Greek is justified by the fact that the three languages differ from each other with respect to at least one property that has been reported to influence the mentioning of Goals. Table 1 summarizes these properties for each language.

Table 1. Properties of the languages under investigation

		Language		
		English	German	Greek
	Grammatical aspect	Yes	No	Yes
Property	Lexicalization pattern	Satellite-framed	Satellite-framed	Verb-framed

English is an aspectual language and is categorized as Satellite-framed; German is also a Satellite-framed language, but does not have a grammaticized aspectual system (see Slobin, 1996a; Talmy, 2000). Finally, Greek differs from both German and English in that it prefers Verb-framed structures and also from German in having grammatical viewpoint aspect (see Papafragou *et al*., 2002; Papafragou and Selimis, 2010; Selimis and Katis, 2010; Sioupi, 2014b). In the following, we briefly explain how the systems of the three languages work regarding the two properties as well as regarding goal mentioning. We first present the strategies adopted by the three languages in order to decompose an event into phases and discuss the prominent role of Goals attributed to non-aspectual languages such as German. We then elaborate on their lexicalization patterns focusing on the differences between the two language types (Satellite- vs. Verb-framed) with respect to Goal preference.

2.1. Aspect in English, German and Greek

A standard definition of aspect characterizes it as a temporal category that is related to the speaker's particular perspective presenting an event as "on-going" or as "completed", i.e. to the "different ways of viewing the internal temporal constituency of a situation" (Comrie, 1976: 3).

This difference in viewpoint is reflected in the basic distinction traditionally made between *perfective* and *imperfective*. While with the perfective aspect a situation is viewed as a single whole or from the outside including the endpoints of a situation, imperfective aspect is used to describe situations from within, focusing on their internal structure with no information about their endpoints (see Comrie, 1976: 24; Herweg, 1990; Smith, 1997; Lübbe and Rapp, 2011). "The two most common imperfectives are the general imperfective and the progressive. The former focuses intervals of all situation types; the latter applies only to non-statives." (Smith, 1997: 73), e.g. **he is knowing the answer* (Smith, 1997: 173, ex. 6a). However, there are some statives such as *love*, *live*, *be,* that are marked for the progressive.

Consider the following pairs: *he is loving it* vs. *he loves it, they were living in Berlin* vs. *they lived in Berlin, he is being silly* vs. *he is silly*; in these sentences the stative expressions including the progressive are interpreted as marked, as referring to current eventualities, suggesting that he is currently loving it, they live temporarily in Berlin, he is acting in a silly manner. With eventive expressions the present tense has only habitual or generic interpretations (e.g. *he does not eat meat*) (cf. Binnick, 2006; Smith, 1997, among others).

The category imperfective exists only in Romance and Slavic languages, not in Germanic languages; the imperfective meaning is the English progressive and the perfective meaning is the English Perfect (Comrie, 1976). This semantic contrast is grammaticized in languages such as English, Greek and Spanish, as opposed to languages such as German (*sie ist am Kochen* 'she is IN/AT the cooking'), Swedish (*Hon håller på att arbeta* 'she holds on to work'), and Danish (*Hun er ved at arbejde* 'he is AT to work') among others,[3] in which the contrast can only be realized periphrastically, i.e. with progressive markers, such as prepositions. The progressive is nowhere grammaticized – through the use of a form of the auxiliary *be* combined with a present participle (*-ing*) – to the same extent as in English (Ebert, 2000: 605).

Languages with grammaticized aspectual systems do not behave homogeneously. In English the perfective viewpoint – often called simple aspect – is phonetically zero, since it is signaled with the simple form of the main verb, while the progressive viewpoint is signaled by the auxiliary morpheme (*be+ing*) (Smith, 1997: 67). The English progressive form is related to the Greek imperfective form; they differ in that English exhibits two verbal forms, a continuous (*be + ing*) and a simple form, with the progressive form being obligatory in specific contexts *(*e.g. *What is he doing right now? He is eating an apple)*, while in Greek verbs are based on a stem that is marked either for perfective or for imperfective (see Moser, 1994; Giannakidou, 2003; Kitis and Tsangalidis, 2005; Horrocks and Stavrou, 2007; Sioupi, 2014b; among others). Further, aspect in Greek interacts with the system of tenses. There is a morphologically coded distinction between past and non-past; past is marked by the stressed augment *e–*, which precedes the verbal stem, when the verb stem is monosyllabic and starts with a consonant (compare *grafo* 'I write' vs. *horevo* 'I dance'; only the former contains the augment *e-* in past: *egrafa* 'I wrote' vs. *horepsa* 'I danced'), while non-past appears without the augment *e–* (though with exceptions; cf. Holton et al., 1997; Horrocks and Stavrou, 2007; among others). The following example of the verb *grafo* ('I write') illustrates the interaction of tense and aspect.

[3] The examples are from Ebert (2000: 608, ex. 1).

Aspect Tense/mood	Imperfective	Perfective
Non-past	graf-o 'I write' (present) 'I am writing' Present	graps-o dependent[4]
Past	e-graf-a 'I was writing' 'I used to write' Imperfect	e-graps-a 'I wrote' simple past

(Holton *et al.*, 1997: 108-111; cited in Sioupi, 2014b)

Note that the Greek imperfective and the English progressive are not equivalent: while Greek has an imperfective aspect, used when an action is seen as in progress, habitual or repeated (see Holton *et al.*, 1997: 217; Horrocks and Stavrou, 2007; Sioupi, 2014b; among others), "the main English imperfective is a progressive […]" signaled by the auxiliary *be* and a gerund (e.g. *running*; Smith, 1997: 171); on the other hand, the English perfective (non- progressive) is signaled by the simple form of the main verb (*run*). Progressive applies to dynamic predicates, not to stative ones (cf. Comrie, 1976; Bybee *et al.*, 1994: 126). Despite these differences, English and Greek both share the same feature, the grammatical viewpoint aspect, "which provides the formal means for selecting a subinterval of an event conceptualized for language production" (Schmiedtová *et al.*, 2011: 89).

German uses different strategies to compensate for the absence of a grammaticized aspectual system. In German, the simple past form can have both readings, a completed and a progressive reading (*er schlief* 'he slept'/ 'he was sleeping'); progressivity can be marked by means of either periphrastic constructions or the adverb *gerade* ('just'), as in *er arbeitet gerade* 'he is working'. The periphrastic constructions comprise the <*am* V + infinitive *sein*> construction ('at V-infinitive be'; see 1a), the <*sein* ('be') + NP + *am/beim* ('at') + infinitive> construction, also known as the *Rheinische Verlaufsform* (see 1b), and the <*dabei sein* (*'at be'*) + *zu* (*'to'*) + *infinitive*> construction (see 1c; cf. Ebert, 2000; Bertinetto *et al.*, 2000; Anthonissen *et al.*, 2016). All these are limited to dynamic agentive situations.

(1) a. *Ich* *bin* *am/beim* *Arbeiten.*
I am at-it working
"I am working."

[4] By dependent is understood the verb form which combines perfective aspect and non-past, as is the case with 'grapso'; it cannot function as a tense on its own.

b. *Er* *ist* *einen* *Roman* *am* *Lesen.*
he is a roman to read
"He is reading a roman."

c. *Er* *war* *dabei,* *den* *Tee* *zu* *kochen.*
he is at-it the tee to make
"He is making tee."

Table 2 provides an overview of English, German and Greek, showing the differences with respect to perfective, imperfective/progressive aspect (cf. Schmiedtová *et al.*, 2011: 74; Lang, 2011: V-1, Sioupi, 2014b: 36, Table 6).

Table 2. Aspect systems in English, German and Greek

	Language		
	English	German	Greek
Imperfective	no	no	yes
Perfective	no/yes	no	yes
Progressive	yes	no	no

To sum up, on the one hand, Greek has a stem that is marked either for perfective or imperfective aspect; hence the distinction perfective vs. imperfective. English, on the other hand, is indicated as a +/-perfective language, as table 2 illustrates, since the perfective viewpoint aspect is phonetically zero; it also exhibits the distinction between progressive and non-progressive; the progressive and non-progressive forms are obligatory, they are not in general interchangeable, nor can any of these be replaced by the other (Comrie, 1976: 32–33). Finally, in German the category imperfective does not exist, but unlike English, progressive meanings can be expressed through periphrastic constructions as well as by using *gerade* ('just').

2.2. The effect of grammatical aspect on Goal realization

In languages with grammaticized aspect, aspect has been assumed to be a cognitively more salient category, as compared to non-aspect languages (cf. Slobin, 2003). Crucially, a series of studies has identified cross-linguistic differences between speakers of aspect and non-aspect languages in the perception and conceptualization of events (see, e.g., von Stutterheim and Nüse, 2003; von Stutterheim *et al.*, 2012). An effect commonly reported in these studies is that speakers of aspect languages focus more on dynamic components of events, as is, among other things, reflected in the verbalization patterns speakers of aspect languages tend to employ. In contrast, for speakers of non-aspect languages a tendency has been found to conceptualize events holistically (not as 'on-going') and establish a right-hand boundary on the temporal axis through the inclusion of endpoints, realized by referring to effected objects or to goals of movement.

We assume effects of this nature to be in support of Slobin's Thinking-for-speaking hypothesis (Slobin, 1996a, 2003). The hypothesis states that certain portions of non-linguistic, preverbal conceptual representations are tuned during active language use in such a way that they match the grammatical requirements of the target language (see Slobin, 2003: 158–160). Evidence comes from studies on a broad spectrum of grammatical categories such as, for example, grammatical gender (Vigliocco *et al.*, 2005; Boroditsky *et al.*, 2003) or the Satellite- and Verb-framed opposition (Papafragou *et al.*, 2008; Slobin, 1996a, 2003; Gennari *et al.*, 2002; Naigles and Terrazas, 1998; Naigles *et al.*, 1998), for which relativistic effects have been found in the context of linguistic experimental tasks but not in non-linguistic tasks.

Against this theoretical and empirical background, motion events have been extensively studied with respect to the question as to whether the presence of grammatical viewpoint aspect determines the conceptualization of motion events and, in particular, the involvement of Goals of motion in the underlying conceptual structures. For instance, von Stutterheim *et al.* (2003), based on elicited film-based narratives, report on verbalization data which suggest that German speakers tend to mention an endpoint of a movement or activity more often than English or Spanish speakers, i.e. speakers of aspect languages. The authors interpret the result of their study to reflect cross-linguistic differences in what speakers select as salient event components as well as in the granularity of event segmentation that speakers of different languages employ during language production. Such cross-linguistic differences in the attention to Goals have also been reported by Athanasopoulos and Bylund (2013) in a comparison between English and Swedish speakers, with significant effects mainly in verbal encoding but not in non-verbal representations of motion. Furthermore, language-specific event segmentation and Goal orientation has also been argued to be a factor in adaptation processes in second language acquisition (e.g. Athanasopoulos *et al.*, 2015) as well as in foreign language learning (Schmiédtova and Flecken, 2008). In contrast to the aforementioned studies, Bepperling and Härtl (2013) did not find evidence for a language-specific difference between English and German with regard to endpoint encoding. Given the conflicting evidence in the literature, we chose to investigate the impact of additional factors that may also have an effect on the realization of Goals. The following two sections open the discussion about lexicalization patterns and their possible effect on the explicit expression of Goals.

2.3. Lexicalization patterns

Talmy (2000) suggested an influential two-way typology of motion event constructions – in fact of complex event constructions – according to which the world's languages are divided into Satellite- and Verb-framed languages (cf. Slobin, 2004; Beavers *et al.*, 2010; Croft *et al.*, 2010). Talmy's dichotomy is based on where the information relating to Path of motion is encoded. In

Satellite-framed languages, such as Dutch, Path is systematically expressed outside the verb root, in satellites, whereas Manner of motion is encoded in the verb. In Verb-framed languages, such as Spanish, Path is typically encoded in the verb and Manner appears elsewhere in the sentence (e.g. as a gerundive type constituent). Note that the term "satellite" is not uncontroversial. Talmy (2000: 222) defines a satellite as:

> [the] grammatical category of any constituent other than a noun phrase or a prepositional-phrase complement that is in a sister relation to the verb root. […] The satellite […] is thus intended to encompass all of the following grammatical forms: English verb particles, German separable and inseparable verb prefixes, Latin or Russian verb prefixes, […]

This definition excludes prepositions from the category. However, as has been pointed out by several scholars, the distinction between a satellite and a preposition is not always clear (see Filipović, 2007: 33ff.; Beavers *et al.*, 2010: 7ff.; Croft *et al.*, 2010: 205ff.). It creates more problems than it solves, since, for example, "[s]emantically, there is no difference in the encoding of components of an event between a form that can only be a preposition and a form that can be a particle as well as a preposition" (Croft *et al.*, 2010: 205). In Talmy's typology, only the latter would be a satellite in the strict sense of the term. In the current study, taking into account that prepositions play an important role in expressing Path, we do not divide the two; rather we treat them all as Path morphemes (see also Filipović, 2007: 35).

In English and German, motion events are predominantly expressed by Satellite-framed constructions (see (2) as well as (3) and (4), respectively).[5]

(2) *A few enlisted men freed their captain, who grabbed a pistol* ***ran*** *to the bridge and shot Sablin in the leg.*

(3) *Ich* ***renne*** *zur Tür, öffne ihm, ehe er klingeln kann.*
"I **run** to the door, open it to him, before he can ring."

(4) *Sie trinken abwechselnd aus der Flasche, geben sie ihr zurück und* ***rennen*** *ins Meer hinein.*
"They drink alternate from the bottle, give it back and **run** into the sea."

In all the above examples, Manner of motion is encoded within the verb. In (2) and (3), Path information appears in a prepositional phrase (henceforth PP), while in (4), it is encoded via both the adverb *hinein* and the PP *ins Meer* (cf. Berman and Slobin, 1994; Slobin, 1996a; Özçalışkan and Slobin, 2000; Talmy, 2000; Berthele, 2006, among many others).

[5] All the following examples in Section 2 and those in Section 3 come from our extracted data from the corpora providing the material for this study (unless otherwise stated; for methodological details see Section 3).

Conversely, Greek usually uses Verb-framed patterns (Antonopoulou, 1987; Bassea-Bezantakou, 1992; Talmy, 2000: 66–67; Papafragou *et al.*, 2002, 2006; Selimis, 2007; Johanson and Papafragou, 2010; Papafragou and Selimis, 2010; Selimis and Katis, 2010; cf. Soroli, 2012; Soroli and Verkerk, 2017). Such a pattern is illustrated in (5).

(5) *Mi* *exontas* *pu* *alu* *na* *strafi,*
NEG have:PTCP.PRS where elsewhere SUBJ turn:3SG,
γirise ***trexontas*** *sto sxolio*.
came_back:3SG.PFV **running**:PTCP.PRS in-to school.
"Having no other choice, he ran back to the school (lit. he returned to the school **running**)."[6]

In (5), the Path is encoded within the verb *γirnao/γirizo*, whereas Manner appears in the gerund *trexontas*. It is not very difficult, though, for one to find Satellite-framed patterns as well. Consider (6):

(6) *O* *Ivic* *otan* *antikatastaθike* ***etrekse*** *γriγora*
The Ivic when substituted:3SG.PFV run:3SG.PFV fast
pros *ta* *apoðitiria*.
towards the locker_rooms
"When Ivic was substituted, he **ran** quickly towards the locker rooms."

In (6), the change of location is taken over by the PP *pros ta apoðitiria* and the Manner is lexicalized in the verb *etrekse*. However, given the predominance of the Verb-framed patterns in Greek, we consider it as sufficiently distinct from both German and English (following Selimis and Katis, 2010: 60).

2.4. Goal preference across languages: the effect of the lexicalization pattern

A series of studies has examined the question as to whether Satellite- and Verb-framed languages differ in their degree of Goal prominence and, in particular, as to whether Goal assumes a more prominent role in the former than in the latter. For example, Slobin (1996a: 199–201) reported that in elicited motion descriptions, English speakers, including children, would describe downward motion with ground adjuncts more often than Spanish speakers. This means that the former were more likely to include the Goal of movement in the sentence, whereas the latter preferentially adopted a minus-ground strategy, namely they chose to omit the ground. In other words, descriptions of the type (7), which include elaborations of the Path, were more

[6] Abbreviations used in the interlinear glosses: NEG= negation, PRS= Present, PTCP= participle, SUBJ= subjunctive, 3SG= 3rd person singular, PFV= perfective aspect.

frequent in English narratives than in Spanish ones, with the cross-linguistic difference being most marked for mature speakers (i.e. adults).

(7) *They fell in the water.* (from Slobin, 1996a: 200)

A caveat should be mentioned at this point: Slobin's study shows that English speakers pay more attention to Path details in general, not to the Goal in particular. This means that the difference in the frequency of Goal encoding between the two languages is a byproduct that arises from the general tendency of Spanish to encode Path information in the verb and of English to encode it outside the verb. There is no implication in the aforementioned study that the Goal of motion is generally more important in a Satellite- than in a Verb-framed language.

This conclusion is consistent with findings by Johanson and Papafragou (2010), who found no differences between English and Greek with regard to the Goal bias's robustness. In their experimental study, in which different motion configurations were used, participants were asked to describe a number of motion events in their native language. Each event had a Source and a Goal version. Results showed that Goal information was given more frequently and consistently than Source information in both languages, thus supporting a potential universal way of encoding the two Path types (favoring the endpoint of motion). However, as expected, English speakers provided fuller Path information – with Source and Goal adpositions combined – significantly more often than Greek speakers did, which again points to a Path elaboration tendency rather than a Goal bias of the Satellite-framed language.

Yet, in a more recent corpus study by Georgakopoulos and Sioupi (2015), differences were reported even in the degree of the Goal bias's robustness between Satellite- and Verb-framed languages, i.e. German and Greek. These authors examined the hypothesis of the preference of Goals over Sources in the representation of Change of Possession events, i.e. events that have a similar syntactico-semantic structure to Change of Location events. More specifically, their corpus investigation included the contrastive analysis of the verb lexemes BUY and SELL, which belong to the COMMERCIAL EVENT frame, require the same number of arguments, and are both likely to explicitly express an optional element, namely a Source and a Goal element, respectively. The study confirmed previous observations on the prevalence of the Goal over the Source cross-linguistically, but, crucially, also revealed one important difference between the two languages. The optional PP is expressed more often in German than in Greek. At first glance, this seems to reflect again a Path bias rather than a Goal bias. However, since the Source PP was more frequent in Greek than in German, such a conclusion was ruled out. The critical factor for the observed difference was the Goal optional element in German. Thus, the authors concluded that German shows a more robust Goal bias compared to Greek.

The results of the aforementioned studies suggest that Path prominence and, as a consequence in some cases, Goal prominence, will be more evident in Satellite-framed languages. For our purposes, this means that, if the cross-linguistic difference in lexicalization patterns of motion events were the only factor determining Goal prominence, we would expect Goals to be more frequent in Satellite-framed German and English than in Verb-framed Greek. However, as shown above, this cannot be the whole story since there is another factor affecting the realization of Goals: grammatical aspect.

To conclude, Goal preference and the inclusion of the Goal of movement in linguistic descriptions of motion events can be approached only from a multi-factorial perspective, where language-specific factors such as the lexicalization pattern of the language, on the one hand, and the presence of grammatical viewpoint aspect, on the other, are carefully controlled and examined in their interdependence.

3. Corpus data: A pilot study

As a first step towards testing the interdependency of lexicalization pattern and grammatical viewpoint aspect, we conducted a pilot corpus study, in which we examined the frequency distribution of Goals with a small set of verbs in English, German, and Greek. We picked one transitive motion verb and one intransitive Manner verb, namely FOLLOW and RUN, neither of which imply a specific direction unless they occur with an explicit directional phrase (cf. Levin, 1993: 267).[7] We extracted data from the Corpus of Contemporary American English (COCA) for English (http://corpus.byu.edu/coca/; last accessed July 2016); from the DeReKo corpus (COSMAS II) compiled by IDS Mannheim for German (http://www.ids-mannheim.de/cosmas2; last accessed July 2016; see Kupietz *et al.*, 2010); and from (a) the Portal for the Greek Language[8], (b) the Corpus Manager (see Kouklakis *et al.*, 2007), and (c) the Corpus of Greek Text (Goutsos, 2010; http://sek.edu.gr/; last accessed: August 2015) for Modern Greek. The size of the English Corpus used in this study is ca. 106 million words; the German corpus contains more than five billion words, and the Greek corpus has ca. 20 million words. In all three languages, we have chosen to draw data from one text type, viz. newspapers.

We first retrieved all instances of the verbs RUN and FOLLOW in English, German and Greek, i.e. *run/rennen/trexo* and *follow/folgen/akoluθo*, respectively. The overall number of tokens retrieved ranged from 1,850 to

[7] Compare, for example, the sentence *He followed his friend for an hour*, which does not specify any direction and the sentence *He followed his friend to the room*, which brings the endpoint of motion to the foreground thanks to the PP *to the room*. We use small caps to refer to the verbs in all three languages as we assume the verbs' roots to cross-linguistically share a common lexical-conceptual core (see also footnote 9).

[8] More specifically, the Corpus of the Newspaper 'Makedonia' was used (http://www.greek-language.gr/greekLang/modern_greek/tools/corpora/makedonia/index.html; accessed September 2016).

17,000. After the retrieval of the instances, we performed a random sorting with MS Excel 2016 by means of the random number generator formula "=rand()". We checked each token manually and removed the invalid hits, e.g. metaphors.[9] The data used in the analysis consist of a total of 900 tokens, i.e. 200 instances per language for RUN and 100 for FOLLOW. The difference in number between the two verbs is due to the fact that in English and Greek the analysis of the corpus did not return many valid instances of FOLLOW. The 900 valid tokens were coded for (a) reference to Goals[10] and (b) the type of aspect (where applicable). The following examples in Tables 3 and 4 illustrate the different possible combinations in the three languages.

Table 3. Aspect languages: mentions of Goal vs. absence of Goal

Aspect/ Goal mentioned	**Language**	
	English	Greek
Perfective/ Goal	(8a) *A few enlisted men freed their captain, who grabbed a pistol,* ***ran*** *to the bridge and shot Sablin in the leg.*	(8b) ***Etrekse*** *γriγora sto pio kontino periptero, anikse to psiγio.* "He rushed quickly to the nearby kiosk, he opened the fridge."
Imperfective or Progressive/ Goal	(9a) *If you are alone and sense someone* ***following*** *you to your room.*	(9b) *O enðiaferomenos vγazi ta rouχa tu ke i nosokoma ton* ***akoluθi*** *sto banio.* "The interested man takes off his clothes and the nurse follows him to the bathroom."
Perfective/ No Goal	(10a) *After landing, he checked his body and arose and* ***ran*** *ordering his men to find cover.*	(10b) *Meta to telos tou video i pektes* ***etreksan*** *epi arketi ora sto xionismeno γipeðo.* "After the end of the clip, the players were running for a long time on the snowy court."
Imperfective or Progressive/ No Goal	(11a) *He'd dialed 911 because the husband of the woman he's dating was* ***following*** *him in his car.*	(11b) ***Etrexe*** *o kirios sto ðasos γia na ðiatirisi ti forma tu.* "The man was running in the forest to keep in shape."

[9] For FOLLOW valid hits were considered those that describe the literal motion of an animate entity (human, animal) following another entity. For RUN, the intransitive uses that describe the controlled or uncontrolled (fast) pedestrian or other vehicular motion were taken as valid. Those hits in which the Path element is not only omitted, but its presence is also ruled out (e.g. *I never run after plays*), were tagged as invalid.

[10] Goals include such prepositions as the illative *into*, the allative *to*, the directive *toward(s)*. This means that we tagged as Goals, even intended or potential Goals, adhering to our methodological principle, according to which the actual achievement of the final point of a motion is not crucial in determining whether this point will be categorized as Goal or not (see also footnote 2). Cf. Horrocks and Stavrou (2007: 611) for classifying *pros* ('towards') in Modern Greek with verbs of motion as direction of movement and *γia* ('for') as an intended goal. In their view, these do not count as Goals.

Table 4. Non-aspect language: mentions of Goal vs. absence of Goal

Aspect/ Goal mentioned	**German**
N.A./ Goal	(12) *Der 17-jährige Schüler **folgte** seinem Mörder <u>in dessen Wohnung</u> an der Celler Straße.* "The 17-year-old student followed his killer into his apartment in the Celler street."
N.A./ No Goal	(13) *Daraufhin nahm der junge Mann seine Taschen und **rannte** aus dem Lokal.* 'Thereupon the young man took his bags and ran out of the pub."

Table 5 shows how often the two verbs choose to include a Goal of motion in motion events and how often they exclude it in English, German and Greek**.**

Table 5. Frequency distribution of FOLLOW and RUN in English, German and Greek

	English			**German**			**Greek**		
	Goal included	Goal not included	TOTAL	Goal included	Goal not included	TOTAL	Goal included	Goal not included	TOTAL
FOLLOW	43% (43)	57% (57)	100% (100)	39% (39)	61% (61)	100% (100)	19% (19)	81% (81)	100% (100)
RUN	49% (98)	51% (102)	100% (200)	56% (112)	44% (88)	100% (200)	59% (118)	41% (82)	100% (200)

Figure 1 visualizes the differences between the languages with respect to just the explicit expression of Goals.

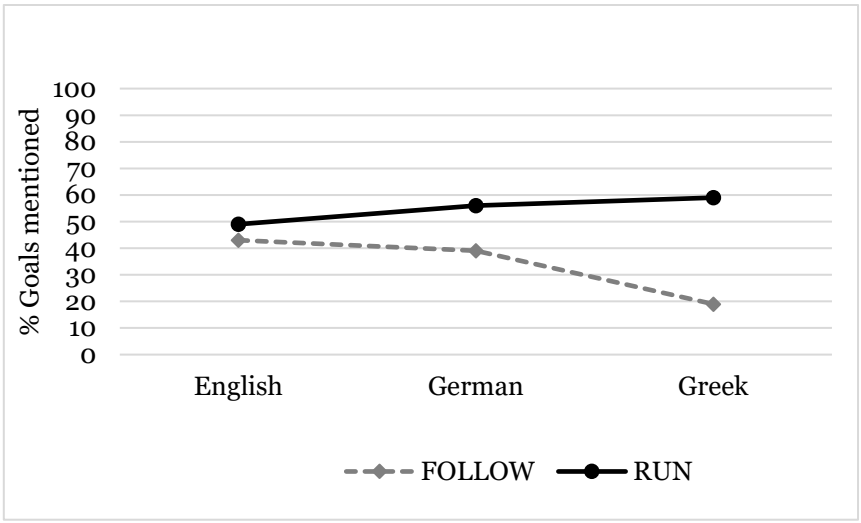

Figure 1. Distribution of Goals for FOLLOW and RUN in English, German and Greek

These results reveal that the two verbs do not behave homogenously. On the one hand, RUN co-occurs with Goals of motion more frequently in Greek, but the differences between the three languages are not significant, $\chi^2(2)=4{,}25$ p = .12 (only the difference between English and Greek is significant, $\chi^2(1)=4$, p < .05). On the other hand, German and English prevail over Greek in mentions of Goal with FOLLOW (German-Greek: $\chi^2(1)=9.71$, p < .05; English-Greek: $\chi^2(1)=13.46$, p < .05). With this verb, a relationship was found between

language and mentions of Goals ($\chi^2(2)=14{,}8$, $p < .05$). If we collapse the two verbs into one category, German ranks higher in terms of Goal inclusion than English, which in turn ranks higher than Greek. However, no significant association is found between the language and whether or not the verbs include a Goal in the motion event ($\chi^2(2)=1.39$, $p = .5$).

Turning now to the two aspect languages, we asked how a different aspectual category might influence Goal preference. Tables 6 and 7 report the results for English and Greek, for each verb separately, and include information about the distribution of Goals across the different aspectual categories.

Table 6. The verb RUN in English and Greek

	English		**Greek**	
	Goal included	Goal not included	Goal included	Goal not included
Imperfective/ Progressive	7% (7)	15% (15)	36% (43)	40% (33)
Perfective/ non-progressive	93% (91)	85% (87)	64% (75)	60% (49)
TOTAL	100% (98)	100% (102)	100% (118)	100% (82)

Table 7. The verb FOLLOW in English and Greek

	English		**Greek**	
	Goal included	Goal not included	Goal included	Goal not included
Imperfective/ Progressive	5% (2)	33% (19)	26% (5)	58% (47)
Perfective/ non-progressive	95% (41)	67% (38)	74% (14)	42% (34)
TOTAL	100% (43)	100% (57)	100% (19)	100% (81)

These findings show that in events incorporating a Goal the perfective aspect/non-progressive always prevails over the imperfective/progressive. All the differences between the two aspectual types in both verbs and in both languages were significant (see Table 8).

Table 8. Proportions of perfective and imperfective usages with RUN and FOLLOW with the Goal of motion included for English and Greek

	Verb	Chi-Square Goodness-of-Fit Test
English	RUN	$\chi^2(1)=72$, $p < 0.01$
	FOLLOW	$\chi^2(1)=35.37$, $p < 0.01$
Greek	RUN	$\chi^2(1)=8.68$, $p < 0.01$
	FOLLOW	$\chi^2(1)=14.26$, $p < 0.05$

Note that for English the differences might also be the outcome of a general preference towards perfective descriptions, which outnumber the imperfective ones.

Summing up, we may conclude that our corpus data provide a consistent picture regarding the prevalence of the perfective aspect over the imperfective

when it comes to the inclusion of Goals in the description of a motion event. However, our findings do not give a clear answer to the question as to the extent to which English, German, and Greek differ with respect to the degree of Goal prominence. In fact, from the two motion verbs we obtained conflicting results; they show differences when examined separately (RUN with Goals scores better in Greek, but FOLLOW scores better in English and German) and no difference when examined together. The inconclusiveness of the results suggests that a more controlled setting might be a more adequate way of investigating possible differences between the languages regarding Goal prominence. Such a way is described in Section 4.

4. The verbalization study

4.1. Method and Material

We have argued that Goal prominence in linguistic descriptions can be understood only from a cross-linguistic perspective, taking into consideration both the lexicalization pattern of a language and grammatical viewpoint aspect. To gain a more systematic picture of the effect that the two factors have on Goal inclusion as well as the interplay between them, we conducted an experimental study, in which descriptions of motion events were elicited. We hypothesize an interaction between the two typological factors. There are two possibilities: either the two factors have an additive effect, namely both have an impact on the realization of Goals; or the weight of each factor is different resulting in different clusters. If the lexicalization pattern is more important than the presence of aspect, German and English (Satellite-framed) will cluster together and Greek (Verb-framed) will be different, but, if the grammatical viewpoint aspect is more important than the lexicalization pattern, Greek and English (aspect languages) will cluster together and German (non-aspect language) will be different.

To test our hypothesis, auditory verbalizations of motion events were accumulated in the experiment motion on the basis of video clips. The procedure closely followed that of von Stutterheim *et al.* (2012), von Stutterheim *et al.* (2017), Athanasopoulos and Bylund (2013), and Flecken *et al.* (2014). The central notion behind all the studies is to test whether participants with different language backgrounds, in verbal as well as non-verbal tasks, react to the same set of stimuli similarly or differently.

Participants

Sixty native speakers of English, German, and Greek (N=20 in each group) participated in the study, all matched for age and gender and from comparable educational and social backgrounds. The German participants

had advanced knowledge of English. The English participants and most of the Greek participants had intermediate knowledge of a second language.[11]

Stimuli

As stimuli, a subset of the clips from von Stutterheim *et al.* (2012) was used.[12] The critical clips (*N*=10) show everyday motion events directed towards identifiable goals with varying visual salience, for example, a man walking towards a car or a bus driving towards a village. The goals are not reached in the clips (GOAL NOT REACHED condition). As controls, we used 10 clips that show motion events where the goal is reached (GOAL REACHED condition), for example, a man walking up some stairs and through a church door. As fillers 10 clips were used depicting dynamic, though non-motion/non-goal-oriented events, e.g. a woman knitting a scarf. All clips are 5 seconds long and were presented in a pseudo-randomized order in two different lists, in which the distance between critical and filler items was controlled. Items from the two conditions were presented in a between-subjects design, i.e. participants from the different language groups were exclusively presented either with GOAL REACHED stimuli, on the one hand, or with GOAL NOT REACHED stimuli, on the other.

Procedure

Experimental sessions, which were conducted by the same researcher in the informants' L1, started with a detailed instruction. 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.[13] In the GOAL NOT REACHED group, participants were asked to describe the event shown right after the beginning of each video.[14] No trigger symbol was used in this experimental group. Participants from both experimental groups were given 6 seconds after each clip for completion of the verbalization. All participants were instructed to start each subsequent clip by pressing the spacebar after the word

[11] At this level, we do not predict the properties of the L2 to have an impact on L1 conceptualizations. In general, even for highly proficient L2 speakers, adjustments of conceptual structures towards the L2 have been reported to be limited and volatile, see, among others, Bepperling and Härtl (2013) and Schmiedtová (2011).

[12] We wish to thank Christiane von Stutterheim for letting us use the material for the purpose of the current study.

[13] The exact wording in the important part of the English instruction was: *We kindly ask you to briefly describe the shown event right after each video*, in German: *Wir bitten Sie, das dargestellte Ereignis unmittelbar nach dem Ende des jeweiligen Videos kurz zu beschreiben*, and in Greek: *Periɣrapste me sintomia to ɣeɣonos pu ðiaðramatizete amesos afu teliosi to kaθe video*. In addition, all participants were instructed to concentrate on the event and ignore details such as the color of the sky.

[14] The exact wording in the important part of the English instruction was: *We kindly ask you to briefly describe the shown event right after the beginning of each video*, in German: *Wir bitten Sie, das dargestellte Ereignis unmittelbar nach dem Start des jeweiligen Videos kurz zu beschreiben*, and in Greek: *Periɣrapste me sintomia to ɣeɣonos pu ðiaðramatizete amesos afu ksekinisi to kaθe video*. Again, participants were instructed to focus on the event itself.

'Spacebar' appeared on the screen. In all sessions, a fixation cross occurred before each clip at the center of the screen for 200 ms. Before the main phase of the experiment, participants undertook a short practice session containing two clips, after which they were given time to ask questions for clarification. Each session lasted for approximately 10 minutes and took place either in our lab at Universität Kassel (Germany) or under comparable lab-like conditions at the University of Westminster (United Kingdom) and the National and Kapodistrian University of Athens (Greece).

Analysis of the event descriptions

All verbalizations were digitally recorded, transcribed and encoded for the inclusion of Goal expressions. Due to the schematized nature of the videos, verbalizations were relatively consistent and, thus, (non-)inclusion of the Goals of motion could be traced in a straightforward way. Fourteen verbalizations were excluded from the analysis mainly due to the lack of reference to the motion event, e.g. German: *Da sind Wanderer* ("There are hikers"); English: *I can see a coach*; Greek: *Vlepume ena leoforio* ("We see a bus").

For most of the German descriptions, participants used a rigid subject-verb schema involving indefinite NPs, as in *Ein Auto fährt in eine Garage* ("A car is driving into a garage"), and the present tense form of the verb. All lexically explicit mentions of the Goal visible in the clip were counted, including Goal-oriented descriptions such as *auf eine Telefonzelle zu* ("towards a phone booth"), which involve reference to an endpoint. Verbalizations which contained a Path particle or adverb but no explicit Goal expression, e.g. *Ein Mann läuft ein paar Stufen rauf* ("a man is walking up some stairs"), were not counted as including a Goal.

In the English descriptions, participants showed a similar tendency to use a subject-verb schema with indefinite NPs as in *A car is driving towards a church*. In both the GOAL NOT REACHED group and the GOAL REACHED group, participants preferred to use the present progressive form (N=181) rather than the simple form (N=15), with a slightly stronger tendency to do so in the GOAL NOT REACHED condition than in the GOAL REACHED condition, in which participants occasionally chose non-progressive forms, e.g. *A dog just ran into a house*. English-speaking participants sometimes expressed the Agent alone to describe events, accompanied by a participle encoding path and goal, respectively, as in *A bus driving down a road* and *A dog running home*. The form SUBJ+PP-Verb-of-movement albeit tenseless – no tense marker is present – is not aspectless; the English *-ing* suffix is taken to be progressive/continuant (cf. Abraham, 2007: 6, Vogel, 2007).[15] In addition, descriptions included existential 'there'-constructions (e.g. *There is a man walking down the street towards a car*) as well as descriptions expressing explicitly the speaker's perspective (*I can see an old gentleman walking upstairs*).

[15] The meaning of this form has an interesting pragmatic import, which we set aside for further research.

In the Greek verbalizations, in a way similar to German and English, the participants predominantly adopted a subject-verb strategy with indefinite NPs (e.g. *Mia kiria bike se ena supermarket* "A lady entered a supermarket") and to a lesser extent with definite NPs (e.g. *To aloγo ebene mesa se ena stavlo* "The horse was entering a stable"). For most of the descriptions, the participants preferred the imperfective aspect (*N*=185) rather than the perfective (*N*=8). As in the English descriptions, perspective taking constructions were also used (e.g. *Vlepo enan anðra na aneveni tis skales enos ktiriu* "I see a man climbing up the stairs of a building"; or *Eðo fenete ena aftokinito to opio piγeni siγa sto ðromo* "Here a car is shown going slowly along the road").

4.2. Results and discussion

4.2.1. Differences in lexicalization pattern

We will look first at the use of Path and Manner verbs in the three languages. Table 9 lists the numbers of types and tokens of the verbs uttered by the English, German and Greek participants during the verbalization task in both conditions.[16]

Table 9. English, German, Greek: types of verbs

		Language		
Verb types		*English*	*German*	*Greek*
Path verb	Types	5	1	12
	Tokens	19	4	114
Manner verb	Types	11	13	6
	Tokens	153	193	86

These results are consistent with the view that the most typical way of describing motion in Satellite-framed languages includes Manner verbs and in Verb-framed languages Path verbs (Talmy, 2000; Slobin, 2004). Indeed, German and English speakers employed mainly Satellite-framed constructions (see (14) and (15), respectively), although the former did so more often.

(14) *Die Katze **läuft** ins Zimmer.*
"The cat **is running** into the room."

(15) *A dog **running** through the courtyard into a house.*

[16] For the categorization of the English and Greek verbs, we follow Parafragou and Selimis (2010). Note that we consider the German *gehen* as a Manner verb because it denotes a particular way of movement, viz. going on foot (see, e.g., Berthele and Stocker, 2017: 664), as compared to the English *go* and the Greek *piγeno*, which are listed as Path verbs (like the Greek *vaðizo*). Even if we classify the 'go' verbs as generic motion verbs, the general picture remains intact.

However, Verb-framed strategies were also sporadically used by some English and German speakers (see (16) and (17)).

(16) *Ein Mann* ***betritt***[17] *eine Kirche.*
"A man enters a church."

(17) *A woman* ***enters*** *a supermarket.*

Adhering to the dominant Verb-framed pattern, the Greek participants offer a high proportion of Path verbs (both at the type and the token level; see also Papafragou & Selimis 2010 for a similar result). Path verbs were often followed by directional elements, as in (18), in which the preposition *pros* ('towards') is used to specify where the lady is heading.

(18) *Mia γineka* ***katefθinete*** *pros ena ktirio stin isoðo tu.*
"A woman **is heading** towards a building, its entrance."

Descriptions including a Manner verb were also very frequent (but proportionally less frequent than in English and German, where a wider selection of Manner verbs is noted). This is illustrated in (19), in which the Greek speaker uses the Manner verb *perpatao* 'walk'. The accompanying PP *sto ðromo* ('at the road') describes the location in which the activity of walking takes place.

(19) *Mia γineka* ***perpatai*** *sto ðromo.*
"A woman **is walking** along/ down the road" (lit. 'at the road').

In some cases, the Greek participants break down the motion event into two clauses, one containing the Manner of motion and the other the Path (see (20)).

(20) *Enas skilos* ***trexi ke beni*** *se ena ktirio.*
"A dog **is running and is entering** a building."

4.2.2. Lexicalization pattern and grammatical viewpoint aspect as factors
To analyze the differences for all verbalizations (N=586) across the six group means, we performed an ANOVA. It 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), $t(1)=15.53$, $p < .001$. 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)

[17] Although it can be argued that the prefix *be-* expresses the Path information, the verb *betreten* has been classified as a Path verb following Berthele (2017: 54), since it is a lexicalized prefixed verb (see also Goschler, 2013: 120).

than in Greek (N=99), t(1)=3.19, p < .004. The difference between German and English did not reach the conventional level of significance, t(1)=2.11, p < .08, nor did the difference between Greek and English, t(1)=1.08, p < .52.

A significant interaction between LANGUAGE and CONDITION was observed, F(2, 59) = 9.8, p < .001, as shown in Figure 2 below:

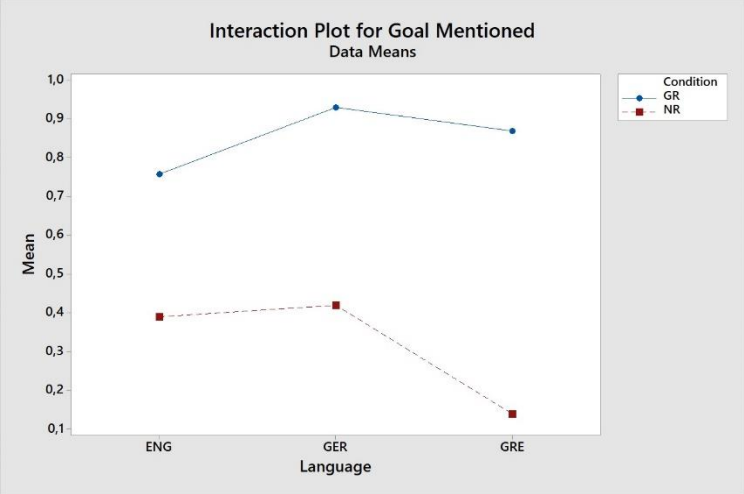

Figure 2. Interaction LANGUAGE × CONDITION

Planned pairwise comparisons[18] for the GOAL NOT REACHED condition indicate a significant difference between German and Greek, t(19) = 4.82, p < .001, as well as English and Greek, t(19) = 4.30, p < .001, with more Goal expressions noted in English (N=39) and German (N=42) than in Greek (N=13). No significant difference was observed between the two Satellite-framed languages in the GOAL NOT REACHED condition. In the GOAL REACHED condition no significant difference was observed between Greek and English, nor between Greek and German. The difference between English and German, however, marginally reached the conventional level of significance in the GOAL REACHED condition, t(19) = 2.96, p < .04, with German (N=92) favoring the use of Goal expressions more compared to English (N=72).

4.2.3. Discussion

The results of the current study suggest that the inclusion of Goal expressions in the description of motion events differs relative to the output language. The data 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 clustering of English and German, both Satellite-framed languages in the Talmian typology of motion, versus Greek, a Verb-framed language. Our results do not indicate a systematic effect of the presence of aspect on the inclusion of Goals in the event descriptions we elicited and, accordingly, we conclude our results to be incompatible with approaches that assume

[18] Tukey simultaneous tests for pairwise differences.

grammatical viewpoint aspect to be the source of relativistic effects in motion event descriptions (see, e.g., von Stutterheim et al., 2003). We did find a moderate effect of aspect in the more "offline" GOAL REACHED condition, in which more Goal expressions were included in the German descriptions than in the English descriptions.[19] However, we suspect these differences are related to the overall structural uniformity of the German responses in contrast to the English or Greek ones.

If we were to wish to situate our findings within the Thinking-for-Speaking discussion, we might suggest that the difference in the Goal distribution between English/German and Greek indicates that the Goal domain in English and German is more salient and conceptually articulated in the minds of speakers than in Greek (on the role of frequency in this respect, see Slobin, 2003: 164). We assume that this difference could be attributed to certain properties of the languages' lexicalization patterns and, in particular, to the different coding strategies that each language allows. In Satellite-framed languages, it is more probable to include more portions of the Path in a single clause than it is in Verb-framed languages (see, e.g., Slobin, 1996b). This tendency is confirmed in our data. For example, English and German speakers, conforming to the pattern of their language, give more detailed elaborations of the Path and follow a one-clause-pattern (see (21) and (22)). In contrast, Greek speakers either choose to express Path just in the verb, in which case they omit the Goal (see (23)), or they subdivide the motion event into two sub-events in an effort to also include the Goal (see (24); cf. Talmy, 2000; von Stutterheim *et al.*, 2017 for similar results in Verb-framed languages). Both options have certain consequences for the coding of Goals. In the former, they are simply omitted and, in the latter, their expression comes at a greater cost. The latter option also suggests that Goal might be more codable in English and German than in Greek (for the notion of "codability" of a domain, see Slobin, 2003).

(21) *A man walking up the stairs into a building.*
(22) *Ein Mann geht Treppen zu einem Eingang eines Gebäudes hinauf.*
"A man is walking up some stairs to the entry of a building."
(23) *O kirios* ***aneveni*** *tis skales.*
"The man is **climbing up** (lit. ascending) the stairs."
(24) *Enas anðras* ***aneveni*** *ta skalia* ***γia na bei*** *se ena ktirio.*
"A man is **climbing up** (lit. ascending) the stairs **to enter** a building."

[19] An anonymous reviewer has asked about the impact of the fact that the imperfective/progressive are favoured in Greek and English. The prevalence of 'imperfective/ progressive' descriptions cannot be the reason behind the prevalence of Goals in German in the GOAL REACHED condition, because, if this were the case, a similar Goal predominance should have been observed in the GOAL NOT REACHED condition, in which 'imperfective/ progressive' descriptions also prevail.

Unsurprisingly, English and German speakers also expressed the Goal in cases where they did not add more than one Path to their descriptions (see (25) and (26)). This affects the number of Goal mentions as well.

(25) *A dog runs into a building*.
(26) *Der Hund läuft ins Haus*.
"The dog runs into the house."

5. Conclusion

This cross-linguistic study focused on the factors affecting the realization of Goals of motion in linguistic descriptions. In particular, it investigated the potential impact of two distinct factors, namely the lexicalization pattern of a language and grammatical viewpoint aspect, on the explicit expression of Goals. The two typological factors have been highlighted in some recent studies as being crucial to affecting Goal preference (see Sections 2.2 and 2.4), but, to date, these factors have been treated in isolation. This study was an effort towards a unified account, taking both factors into account. To this end, we conducted two empirical studies, a pilot corpus-based study and an experimental study, comparing three languages, English, German, and Greek. Particularly important in this respect was the fact that these languages differ from each other with respect to at least one property that has been reported to affect the inclusion of Goals in linguistic descriptions.

The results based on the pilot corpus study were inconclusive in that the two motion verbs selected, RUN and FOLLOW, were found to behave differently across languages. RUN co-occurs with Goals of motion more often in Greek, whereas FOLLOW co-occurs with Goals of motion more often in English and German. This result underscores the need for a more thorough corpus-based study, which will cover a more expanded set of verbs in more text types.

We were able to overcome the shortcomings of the small data set by means of the experimental study, which ensured the elicitation of different verbs thanks to the stimuli set used. Most importantly, the experimental setting provided a more controlled platform for the investigation of the cross-linguistic differences with respect to Goal prominence. The results based on the experimental study revealed that the two factors are not equally weighted. The similarity between two of the languages indicates that the additive effect of lexicalization pattern and grammatical viewpoint aspect should be ruled out. The fact that the two Satellite-framed languages, namely English and German, are grouped together suggests that lexicalization pattern assumes a more prominent role than grammatical viewpoint aspect in affecting Goal realization. Thus, the present paper takes issue with previous research that has proposed an upgraded role of grammatical viewpoint in the construal of motion events (von Stutterheim *et al.*, 2003; Schmiedtová *et al.*, 2011; Athanasopoulos and Bylund, 2013). However, further research examining the

differences in the aspectual categories of different languages is needed, especially because such differences might play an important role in "profiling event types" (see von Stutterheim *et al*., 2017). In this paper, we focused more on the online (short-term) consequences of language use; the extent to which the reported differences have durable (long-term) consequences is also an open question for future research.

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