Typological differences and their ramifications for motion encoding: comparing German to English and Greek

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Goal of motion: “the entity or place towards which something moves” (Crystal 2008).
Goal of motion:

• The (potential) final point of motion

  • Instances in which the figure finally reaches this point.

  • Instances in which the figure simply heads towards it.

(see, e.g., von Stutterheim et al., 2009)
Introduction

Outline

1. Introduction
2. Lexicalisation patterns
   • Satellite-framed *vs.* Verb-framed languages
   • Goal preference across languages: The effect of the lexicalization pattern
3. Aspect *vs.* non-aspect languages
   • Goal preference across languages: The effect of grammatical aspect
4. The present study:
   • Verbalization study
     • Focus on English, German, Greek
     • Findings based on different categorisations of the stimuli
5. Conclusion

*Based on: Georgakopoulos, Härtl & Sioupi (2018); Georgakopoulos & Härtl, submitted*
There are two main streams of research dealing with goals of motion:

- The first one addressing the so-called source-goal asymmetry or goal-bias hypothesis:
  - Goals and sources of motion behave asymmetrically;
  - A clear preference for the endpoint of motion is reported (see, among others, Ikegami, 1987; Landau & Zukowski, 2003; Stefanowitsch & Rohde, 2004; Lakusta & Landau, 2005; Gehrke, 2008; Papafragou, 2010; Georgakopoulos & Sioupi, 2015; Lakusta & DiFabrizio 2016; Luraghi et al. 2017; Georgakopoulos, 2018).

- The second one viewing goal preference in motion events as a reflector of cross-linguistic differences.

Today’s talk
The background:
Two distinct factors have been reported to determine goal preference:

• The cross-linguistic differences in lexicalization patterns of motion events
  (see Slobin, 1996; Georgakopoulos & Sioupi, 2015)

• The presence of grammatical viewpoint aspect encoding
Introduction
The background:
Two distinct factors have been reported to determine goal preference:
  • The cross-linguistic differences in lexicalization patterns of motion events 
    (see Slobin, 1996; Georgakopoulos & Sioupi, 2015)
  • The presence of grammatical viewpoint aspect encoding 

Table 1. Properties of the languages under investigation

<table>
<thead>
<tr>
<th>Property</th>
<th>English</th>
<th>German</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grammatical aspect</strong></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Lexicalization pattern</strong></td>
<td>Satellite-framed</td>
<td>Satellite-framed</td>
<td>Verb-framed</td>
</tr>
</tbody>
</table>
Lexicalisation pattern: S-framed vs. V-framed

- Languages that express the path in the verb (map the core schema of the event onto the verb): **verb-framed languages.**

- Languages that express the path out of the verb via “satellites”: **satellite-framed languages.** (Talmy, 1985; 2000)

- Satellites are defined as “certain immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments”. (Talmy, 1985: 102)

  - “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, [...] .” (Talmy, 2000: 222; cf. Beavers et al., 2010, Goschner et al., 2013, who include also PPs)
Lexicalisation pattern: S-framed vs. V-framed

The dog *ran* into the house.

**SATELLITE-FRAMED PATTERN:**
→ path encoded in a satellite

Der Hund *lief ins* Zimmer hinein.

**SATELLITE-FRAMED PATTERN:**
→ path encoded in a satellite

*Main verb encodes manner*
Lexicalisation pattern: S-framed vs. V-framed

VERB-FRAMED PATTERN:
→ path encoded on main verb

O skílos bíke sto δομάτιο τρέχοντα.
‘The dog entered the house by running.’

Le chien est entré dans la maison en courant.
‘The dog entered the house by running.’
Goal preference across languages: The effect of the lexicalization pattern

- In motion events, when the PP is optional (e.g. *They fell in the water*), a V-framed language omits the PP more frequently than a S-framed language

  (Slobin, 1996: 199–201)

- Similar differences were reproduced in non-prototypical motion events, such as CHANGE OF POSSESSION EVENTS

  (Georgakopoulos & Sioupi, 2015)

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Fig. a. The profiled attributes (in bold) of BUY in the COMMERCIAL EVENT frame

Fig. b. The profiled attributes (in bold) of SELL in the COMMERCIAL EVENT frame

Lexical units of the COMMERCIAL EVENT FRAME: BUY, SELL

(cf. Fillmore, 1982 [2006]: 378)
Goal preference across languages: The effect of the lexicalization pattern

German

(1) Aus Verzweiflung verkaufte schon jede zweite Frau ihr Baby.  
from desperation sell:3SG.PAST already each second woman her baby  
‘Every second woman sold her baby out of desperation’. [HMP12]

(2) Schon mit 19 Jahren kaufte sie ihr erstes Kunstwerk.  
Already with 19 years buy:3SG.PAST she her first work of art  
‘When she turned 19 (years old), she bought her first work of art’.  [HMP08]

Greek

(3) O proeðros θa pulisi tin omaða to Δekemvrio.  
the President FUT.PART sell:3SG.PFV.NONPAST the team:ACC the December:ACC  
‘The President will sell the team in December’. [WOPG18-0378]

(4) O pelatis θeli na ayorasi ena cd musikis.  
the customer:NOM wants SUBJ buy:2SG.PFV.NONPAST a cd music:GEN  
‘The customer wants to buy a CD’. [WRPG16-9284]
Goal preference across languages: The effect of the lexicalization pattern

German

(5) Die Firma verkaufte in den Folgejahren Rechner an Universitäten.
the company sell:3SG.PAST in the following.years computers to universities
‘In the following years, the Company sold computers to the Universities’. [SPK]

(6) Er kaufte Beruhigungspillen von einem Junkie.
he buy:3SG.PAST sedative pills from INDEF.DAT junkie
‘He bought sedative pills from a junkie’. [HMP11]

BUY and SELL can explicitly express an optional element
Goal preference across languages: The effect of the lexicalization pattern

Greek

(7) Oso to etos 1974 pulisa ke ta 6 diámerismata until the year 1974 sell:3SG.PFV.PAST and the 6 apartments se 6 diáforetikus ayorastes. to 6 different buyers ‘By 1974, I had sold all 6 apartments to 6 different buyers’. [WRPG17-1791]

(8) Sintoma apektise ke ðefero plio pu to soon acquire:3SG.PFV and second ship that CL.ACC.3SG.N ayorase apo tin eteria Evyeviði. buy:3SG.PFV.PAST from the company:ACC Eugenides’ ‘He soon had a second ship which he bought from the Eugenides company’. [WRPG17-2380]

BUY and SELL can explicitly express an optional element
The optional PP is explicitly expressed more often in German than in Greek.

The critical factor for the observed difference is the goal optional element in German

⇒ German shows a more robust goal bias compared to Greek.

Q: Does the typological difference between German and Greek affect some aspects of the bias toward the expression of the Goal?
Aspect vs. non-aspect languages

Grammaticalized aspect

- Aspects are different ways of viewing the internal structure of a situation (cf. Comrie, 1976)

- **Perfective aspect**: a situation is viewed as a single whole or from outside

  **Imperfective aspect**: describes situations from within, focusing on their internal structure

(see Comrie, 1976: 24; Herweg, 1990; Lübbe & Rapp, 2011)

An apple fell from the tree.  
An apple is falling from the tree.

(see Herweg, 1990; also Stutterheim, et al., 2012; Klein, 1994; Krause, 2002)
This contrast is:

- either grammaticized in the language (e.g. English, Greek, and Spanish)
- or realized periphrastically

The imperfective aspect in German is expressed by means of verbal periphrases, like *am/beim, dabei sein zu* + *inf* as well as with the adverb *gerade* (cf. 9–11):

9) *Ich bin am/beim Lesen.*

10) *Als Peter ankam, war Hans dabei, einen Roman zu lesen.*

11) *Als Peter ankam, las Hans gerade einen Roman.*

In Greek: Grammatical viewpoint aspect is morphologically encoded in verb forms, which are morphologically either imperfective or perfective, and in all tenses

(see Moser, 1994; Holton et al. 1997; Horrocks & Stavrou, 2007)
This contrast is:

- either grammaticized in the language (e.g. English, Greek, and Spanish)
- or realized periphrastically

Table 2. Aspect systems in English, German and Greek

<table>
<thead>
<tr>
<th>Language</th>
<th>English</th>
<th>German</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperfective</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Perfective</td>
<td>no/yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Progressive</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>
A variety of studies argue that:

- There is a relationship between aspect and language-specific behavior in the domain of goals of motion in language production.
- Speakers of non-aspect languages are more prone to encoding event endpoints than are speakers of aspect languages.

The effect of grammatical aspect on Goal realization

A variety of studies argue that:

- **English** speakers focus on the **progression** of an event and mention a possible endpoint rarely (‘phasal decomposition’)
  
  E.g.: *A car is driving along the road*

- **German** speakers conceptualize an event through a ‘**holistic**’ perspective, including a possible **endpoint**
  
  E.g.: *Ein Auto fährt zu einem Dorf*
  
  ‘a car drives to a village’

(see Stutterheim, et al. 2012 among others)
The present study

German

- non-aspect
- S-framed

English

- aspect
- S-framed

Greek

- aspect
- V-framed
The present study: hypothesis

• Assuming that (i) lexicalization pattern and (ii) grammatical viewpoint affect the realization of goals, we can expect an interdependency of the two factors to occur in processes related to event conceptualization

Two possibilities:
The present study: hypothesis

- Assuming that (i) lexicalization pattern and (ii) grammatical viewpoint affect the realization of goals, we can expect an interdependency of the two factors to occur in processes related to event conceptualization.

**Two possibilities:**

(a) **additive effect of the two factors:**

- **H1a:** Goals will be more frequent in German than in English and in Greek.
- **H1b:** Goals will be more frequent in English than in Greek.

<table>
<thead>
<tr>
<th>Language</th>
<th>Aspect</th>
<th>Framing</th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td>(non-aspect, S-framed)</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>(aspect, S-framed)</td>
<td></td>
</tr>
<tr>
<td>Greek</td>
<td>(aspect, V-framed)</td>
<td></td>
</tr>
</tbody>
</table>
The present study: hypothesis

• Assuming that (i) lexicalization pattern and (ii) grammatical viewpoint affect the realization of goals, we can expect an interdependency of the two factors to occur in processes related to event conceptualization.

Two possibilities:

(a) additive effect of the two factors:

- $H_{1a}$: Goals will be more frequent in German than in English and in Greek.
- $H_{1b}$: Goals will be more frequent in English than in Greek.

(b) different weight of each factor
Participants:

• 20 Native speakers of English (University of Westminster, London; UK)
• 20 Native speakers of German (University of Kassel; Germany)
• 20 Native speakers of Greek (University of Athens; Greece)

- All participants were students and postgraduates
- Age: between 18 and 30
- Gender: balanced
The stimuli used in the study were 40 real-world video clips created by the research team of Schmiedtová, von Stutterheim and Carroll at the University of Heidelberg.

We present our findings based on two different distinction of the stimuli material:

- A **bipartite** distinction (see Georgakopoulos, Härtl & Sioupi 2018)
  - Goal not reached condition
  - Goal reached condition

- A **tripartite** distinction (see Georgakopoulos & Härtl, *under review*)
  - Goal not reached condition A
  - Goal not reached condition B
  - Goal reached condition
Verbalization study – Method – Bipartite

• The stimuli used in the study were 40 real-world video clips created by the research team of Schmiedtová, von Stutterheim and Carroll at the University of Heidelberg.

• The clips were depicting different event types:
  
  a) Ongoing motion events, where the Goal is not reached (10 items; Goal not reached condition [Condition A])
  b) Goal-oriented motion events, where the moving entity actually reaches the endpoint (10 items; Goal reached condition [Condition B])
  c) A simple action that did not involve the movement of an entity along a trajectory (e.g., a person wrapping a present) were used as fillers (20 items; fillers)

• Two versions of each condition were created, which contained 20 video clips (presented in a pseudorandomized order)
• In the **Goal not reached group**, participants were asked to describe the event shown **right after the beginning** of each video.

• The exact wording in the important part of the English instruction:
  • *We kindly ask you to briefly describe the shown event right after the beginning of each video*

• In the **Goal reached group**, participants were asked to briefly describe **the events they were about to watch**

• The exact wording in the important part of the English instruction:
  • *We kindly ask you to briefly describe the shown event right after each video*
Verbalization study – Method – Bipartite
Verbalization study – Method – Bipartite
Verbalization study – Method – Bipartite

(12) Eine Frau läuft über Gras.
INDEF.NOM woman walk.3SG over grass:ACC
‘A woman is walking across the grass’.

(13) Eine Frau läuft durch einen Park zu einer Bank.
INDEF.NOM woman walk:3SG through INDEF.ACC park to INDEF.DAT bench
‘A woman is walking through a park to a bench’.

(14) Ein Mann geht in eine Kirche.
INDEF.NOM man go:3SG in INDEF.ACC church:ACC
‘A man is walking into a church’.

(15) There is an older looking lady walking through a park towards a bench.

(16) A man walking in a park.

(17) A man walking into a church.

GNR=Goal not reached condition
GR=Goal reached condition
(18) Mia γινεκα aneveni enan lofisko.
A woman climb.up:3SG a hill:ACC.SG
‘A woman is walking up a hill’.

(19) Enas nearos beni se mia eklisia
a young.man enter:3SG at a church:ACC
‘A young man is walking into a church’.
**Verbalization study – Results – Bipartite**

- **Main effect for language**

![Graph showing goals mentioned as a percentage for both conditions](image)

\[ N_{total} = 586 \]

- **German\(N=134\) – Greek\(N=99\):** \(t(1)=3.19, p < .005\)
- **German\(N=134\) – English \(N=108\):** \(t(1)=2.11, p = .08, \text{n.s.}\)
- **English\(N=108\) – Greek\(N=99\):** \(t(1)=1.08, p = .52, \text{n.s.}\)
Verbalization study – Results – Bipartite

- Breaking down the effect:
• Breaking down the effect:

![Graph showing goals mentioned percentage per condition](image)

- Goal not Reached

  German\(N=42\) – Greek\(N=13\): \(t(19) = 4.82, p < .001\)
Verbalization study – Results – Bipartite

- Breaking down the effect:

- **Goal not Reached**

  English<\(N=39\)> – Greek<\(N=13\>):\(t(19) = 4.82, p < .001\)
Language*Condition: $F(2, 59) = 9.8, p < .001$
Lexicalization pattern
### Verbalization study – Results – Bipartite

**Table 3.** Types of Verbs Used in Greek

<table>
<thead>
<tr>
<th>Manner</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>kavalao ‘ride’</td>
<td>proχoro ‘advance’</td>
</tr>
<tr>
<td>ipevo ‘ride’</td>
<td>katefthinome ‘head-for’</td>
</tr>
<tr>
<td>oðiγo ‘drive’</td>
<td>iserχome ‘enter’</td>
</tr>
<tr>
<td>perpato ‘walk’</td>
<td>pao ‘go’</td>
</tr>
<tr>
<td>strivo ‘turn’</td>
<td>δiasχizo ‘cross’</td>
</tr>
<tr>
<td>treχo ‘run’</td>
<td>kinume ‘move’</td>
</tr>
<tr>
<td>parkaro ‘park’</td>
<td>perno ‘pass’</td>
</tr>
<tr>
<td>periferomai ‘roam-around’</td>
<td>beno ‘enter’</td>
</tr>
<tr>
<td>peritriγirizo ‘move around’</td>
<td>aneveno ‘ascend’</td>
</tr>
<tr>
<td>vadizo ‘walk’</td>
<td>perno ‘pass’</td>
</tr>
<tr>
<td>vaðizo ‘walk’</td>
<td>vyeno ‘exit’</td>
</tr>
</tbody>
</table>
**Table 4.** Types of Verbs Used in German

<table>
<thead>
<tr>
<th>Manner</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>fahren</em> ‘drive’</td>
<td><em>betreten</em> ‘enter’</td>
</tr>
<tr>
<td><em>laufen</em> ‘walk’</td>
<td></td>
</tr>
<tr>
<td><em>gehen</em> ‘go’</td>
<td></td>
</tr>
<tr>
<td><em>spazieren</em> ‘walk’</td>
<td></td>
</tr>
<tr>
<td><em>wandern</em> ‘wander’</td>
<td></td>
</tr>
<tr>
<td><em>steigen</em> ‘steigen’</td>
<td></td>
</tr>
</tbody>
</table>
Table 5. Types of Verbs Used in English

<table>
<thead>
<tr>
<th>Manner</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>walk</td>
<td>enter</td>
</tr>
<tr>
<td>drive</td>
<td>head</td>
</tr>
<tr>
<td>hurry</td>
<td>leave</td>
</tr>
<tr>
<td>ride</td>
<td>return</td>
</tr>
<tr>
<td>run</td>
<td></td>
</tr>
<tr>
<td>toddle</td>
<td></td>
</tr>
<tr>
<td>rush</td>
<td></td>
</tr>
<tr>
<td>turn</td>
<td></td>
</tr>
<tr>
<td>park</td>
<td></td>
</tr>
</tbody>
</table>
Table 6. List of Adpositions Accompanying the Motion Verbs of the Study

<table>
<thead>
<tr>
<th>Language</th>
<th>German</th>
<th>Greek</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in NP ‘into NP’</td>
<td>pros NP ‘towards NP’</td>
<td>to</td>
</tr>
<tr>
<td></td>
<td>auf NP ‘to NP’</td>
<td>se NP ‘at/to NP’</td>
<td>towards</td>
</tr>
<tr>
<td></td>
<td>in Richtung NP ‘towards NP’</td>
<td>mesa se NP ‘in + at/to NP’</td>
<td>into</td>
</tr>
<tr>
<td></td>
<td>zu NP ‘towards NP’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
*Given the findings in Georgakopoulos, Härtl & Sioupi (2018)
• The clips were depicting different event types (von Stutterheim, Bouhaous, and Carroll 2017)
  
  • **Type A:** events that show a figure ‘moving along a short trajectory [...] towards a highly evident goal point marked by an object
  
  • **Type B:** and events in which a figure moves ‘along an extended trajectory with a potential, but not an evident goal point
  
  • **Type C:** Goal reached condition
The clips were depicting different event types (von Stutterheim, Bouhaous, and Carroll 2017).
Table 7a. Mentions of Endpoints for Greek and German per Motion Event (Type A)

<table>
<thead>
<tr>
<th>Motion events</th>
<th>Situation type</th>
<th>Valid</th>
<th>Greek Goal</th>
<th>German Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman towards church</td>
<td>Type A</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Woman towards stop</td>
<td>Type A</td>
<td>10</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Woman towards booth</td>
<td>Type A</td>
<td>9/10 GER</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Woman towards bench</td>
<td>Type A</td>
<td>10</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Man towards car</td>
<td>Type A</td>
<td>10</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Man towards building</td>
<td>Type A</td>
<td>10</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
### Table 7a. Mentions of Endpoints for Greek and German per Motion Event (Type A)

<table>
<thead>
<tr>
<th>Motion events</th>
<th>Situation type</th>
<th>Valid</th>
<th>Greek Goal</th>
<th>German Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman towards church</td>
<td>Type A</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Woman towards stop</td>
<td>Type A</td>
<td>10</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Woman towards booth</td>
<td>Type A</td>
<td>9/10 GER</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Woman towards bench</td>
<td>Type A</td>
<td>10</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Man towards car</td>
<td>Type A</td>
<td>10</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Man towards building</td>
<td>Type A</td>
<td>10</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
Table 7b. Mentions of Endpoints for Greek and German per Motion Event (Type B)

<table>
<thead>
<tr>
<th>Motion events</th>
<th>Situation type</th>
<th>Valid</th>
<th>Greek Goal</th>
<th>German Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car towards village</td>
<td>Type B</td>
<td>7/10 GR</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Car towards church</td>
<td>Type B</td>
<td>9/10 GR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Couple towards village</td>
<td>Type B</td>
<td>10</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bus towards village</td>
<td>Type B</td>
<td>7/10 GR</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
### Table 7c. Mentions of Endpoints for Greek and German per Motion Event (Type C)

<table>
<thead>
<tr>
<th>Motion events</th>
<th>Situation type</th>
<th>Valid</th>
<th>Greek Goal</th>
<th>German Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man into church</td>
<td>Type C</td>
<td>10</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Horse into stall</td>
<td>Type C</td>
<td>10</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Car into garage</td>
<td>Type C</td>
<td>10</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Van into yard</td>
<td>Type C</td>
<td>10</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Kid into playground</td>
<td>Type C</td>
<td>10</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Cat into room</td>
<td>Type C</td>
<td>10</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Woman into shop</td>
<td>Type C</td>
<td>10</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Woman into station</td>
<td>Type C</td>
<td>10</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Horsemann into stall</td>
<td>Type C</td>
<td>10</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Dog into house</td>
<td>Type C</td>
<td>10</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>
Table 8. Mentions of Endpoints per Situation Type

<table>
<thead>
<tr>
<th>Situation Type</th>
<th>Greek</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>12</td>
<td>42</td>
</tr>
<tr>
<td>Type B</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Type C</td>
<td>86</td>
<td>92</td>
</tr>
</tbody>
</table>

• Georgakopoulos, Härtl & Sioupi (2018): the difference between German and Greek could be attributed to the different lexicalization patterns

• An addition: the realization of Goals in motion event descriptions is sensitive to the salience of the goal point towards which the motion is targeted.
Table 8. Mentions of Endpoints per Situation Type

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<td>Type C</td>
<td>86</td>
<td>92</td>
</tr>
</tbody>
</table>
• Responses from all situation types

German speakers:

• Mainly: **S-framed** constructions

  (20) Ein Auto fährt in eine Garage (‘A car is driving into a garage’)

• Marginally: **V-framed** strategies

  (21) Ein Mann betritt eine Kirche (‘A man is entering a church.’)

• Marginally: **bare manner verbs**

  (22) Ein älteres Ehepaar wandert (‘An old couple wanders’)

• Responses from all situation types

Greek speakers:

(a) bare manner verbs

(23) Mia γινεκα perpatai

A woman walk:PRS.3SG

‘A woman is walking.’
• Responses from all situation types

Greek speakers:

(b) Manner verbs + relators that express general localization

(24) Mia γυνεκα perpatai se ena ðromo

A woman walk:PRS.3SG at/to a road

‘A woman is walking on a road.’
• Responses from all situation types

Greek speakers:

(c) Manner verbs + dynamic relators denoting the Goal

(25) Vlepo mia γινεκα na perpataei pros ena telefoniko θalamo

See:PRS.1SG a woman that walk:PRS.3SG to a phone booth

‘I see a woman walking towards a phone booth’
• Responses from all situation types

Greek speakers:

(d) Paths verbs without any relators

(26) O kirios aneveni tis skales

The man ascend:PRS.3SG the stairs

‘The man is climbing up the stairs’
• Responses from all situation types

Greek speakers:

(e) Path verbs with relators that express general localization

(27) Enas anðras proxorai sto ðromo

A man ascend:PRS.3SG at/to the road

‘A man is moving on a road’
• Responses from all situation types

Greek speakers:

(f) Path verbs with dynamic relators denoting the Goal

(28) Mia kiria pu katefθinete pros ena spiti

A woman that head:PRS.3SG towards a house

‘A woman that is heading towards a house’
• Responses from all situation types

Greek speakers:

(g) A main path verb + another path verb as a subordinate element

(29) Εδώ ένας κηρίος ο άλλος ανέβανεν τις σκάλες
Here is a man who ascend:PRS.3SG the stairs

για να βεβαιώσει ένα κτίριο
in order enter:PRS.SUBJ.3SG at/to a building

‘There is a man climbing up the stairs to enter a building’
• The type of information expressed in the verbalizations

**Table 9.** Proportion of [MP] vs. [M] vs. [P] vs. [M/P] descriptions for Greek and German

<table>
<thead>
<tr>
<th>Language</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P</td>
</tr>
<tr>
<td>German</td>
<td>6  (3%)</td>
</tr>
<tr>
<td>Greek</td>
<td>96 (48%)</td>
</tr>
</tbody>
</table>

*Does the description include:*
• 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 (∅)
The type of information expressed in the verbalizations

Table 9. Proportion of [MP] vs. [M] vs. [P] vs. [M/P] descriptions for Greek and German

<table>
<thead>
<tr>
<th>Language</th>
<th>P</th>
<th>M</th>
<th>MP</th>
<th>M/P</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td>6 (3%)</td>
<td>8 (4%)</td>
<td>180 (91%)</td>
<td>1 (0.5%)</td>
<td>3 (1.5%)</td>
</tr>
<tr>
<td>Greek</td>
<td>96 (48%)</td>
<td>70 (35%)</td>
<td>12 (6%)</td>
<td>11 (5.5%)</td>
<td>11 (25.5%)</td>
</tr>
</tbody>
</table>

*Does the description include:
- 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 (Ø)
• The type of information expressed in the verbalizations

Table 9. Proportion of [MP] vs. [M] vs. [P] vs. [M/P] descriptions for Greek and German

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<td>German</td>
<td>6 (3%)</td>
</tr>
<tr>
<td>Greek</td>
<td>96 (48%)</td>
</tr>
</tbody>
</table>

• Greek speakers tend to produce either path-only or manner-only sentences ($N_{gr}$=166 vs. $N_{ger}$=14, $\chi^2(1) = 231.6$ $p < .001$)
The type of information expressed in the verbalizations

**Table 9.** Proportion of [MP] vs. [M] vs. [P] vs. [M/P] descriptions for Greek and German

<table>
<thead>
<tr>
<th>Language</th>
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<th>M/P</th>
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<tbody>
<tr>
<td>German</td>
<td>6 (3%)</td>
<td>8 (4%)</td>
<td>180 (91%)</td>
<td>1 (0.5%)</td>
<td>3 (1.5%)</td>
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<td>11 (25.5%)</td>
</tr>
</tbody>
</table>

Greek speakers: when they express both manner and path:
- they encode both in one clause (S-framed constructions; see also Selimis and Katis 2010; Soroli 2011; 2012; Soroli and Verkerk 2017)
- they split the two types of information into two clauses
• The type of information expressed in the verbalizations

Table 9a. Proportion of descriptions for Greek and German per Situation Type

<table>
<thead>
<tr>
<th>Language</th>
<th>Category</th>
<th>P</th>
<th>M</th>
<th>MP</th>
<th>M/P</th>
<th>∅</th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td></td>
<td>0 (0%)</td>
<td>4 (10.3%)</td>
<td>35 (89.7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Greek</td>
<td></td>
<td>14 (35.9%)</td>
<td>15 (38.5%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>10 (28.6%)</td>
</tr>
</tbody>
</table>

*Does the description include:
• 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 (∅)
Verbalization study – Results – Tripartite

- The type of information expressed in the verbalizations

Table 9b. Proportion of descriptions for Greek and German per Situation Type

<table>
<thead>
<tr>
<th>Language</th>
<th>Category</th>
<th>Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P</td>
<td>M</td>
</tr>
<tr>
<td>German</td>
<td>6 (6%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Greek</td>
<td>69 (68.3%)</td>
<td>17 (16.8%)</td>
</tr>
</tbody>
</table>

*Does the description include:
- 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 (∅)
• **The type of information expressed in the verbalizations**

**Table 9c.** Proportion of descriptions for Greek and German per Situation Type

<table>
<thead>
<tr>
<th>Language</th>
<th>P</th>
<th>M</th>
<th>MP</th>
<th>M/P</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td>0 (0%)</td>
<td>2 (3.3%)</td>
<td>56 (93.3%)</td>
<td>0 (0%)</td>
<td>2 (3.3%)</td>
</tr>
<tr>
<td>Greek</td>
<td>13 (22%)</td>
<td>38 (64.4%)</td>
<td>2 (3.4%)</td>
<td>6 (10.2%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

*Does the description include:*
- 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 (**Ø**)

---

*Type A*
• Type A Situations

• The preference of Greek speakers for only manner verbalizations in Type A situations is not entirely atypical for V-framed languages

• Both S- and V-framed languages seem to have ‘neutral everyday verbs’ (e.g., walk see Slobin 1997: 459)

• Greek speakers accompany very often such verbs with non-dynamic relators that express general localization (in 28/38 tokens; cf. Soroli and Verkerk 2017: 34)

• Paths are also frequently included in the speakers’ verbalizations (32.2%) (cf. German: N=0)
Conclusion

- Our study shows that:
  - Goal prominence is *language-specific* and *condition-specific*
  - Goal prominence must be investigated from a global *comparative* perspective including *possible combinations* of the relevant factors
  - The lexicalization pattern is a stronger predictor than grammatical aspect for the realization of Goal expression
• Within GOAL NOT REACHED motion events, there is structured variation

• 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
In the clips that contain a highly evident Goal, German speakers produce a higher proportion of Goals than Greek speakers.

A possible explanation: S-framed languages have an advantage over V-framed languages, when it comes to the realization of the Goals in peripheral elements.

But the sensitivity to this typological distinction is activated under certain circumstances: the salience of Goal.
Special thanks to those who participated in the study