

10 JAHRE
EXZELLENZCLUSTER TOPOI
NEUE PERSPEKTIVEN AUF DIE ALTE WELT
19 APRIL 2018

Symmetries, asymmetries and factors that trigger them in descriptions of motion in space: Evidence from the diachrony of Greek

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Introduction

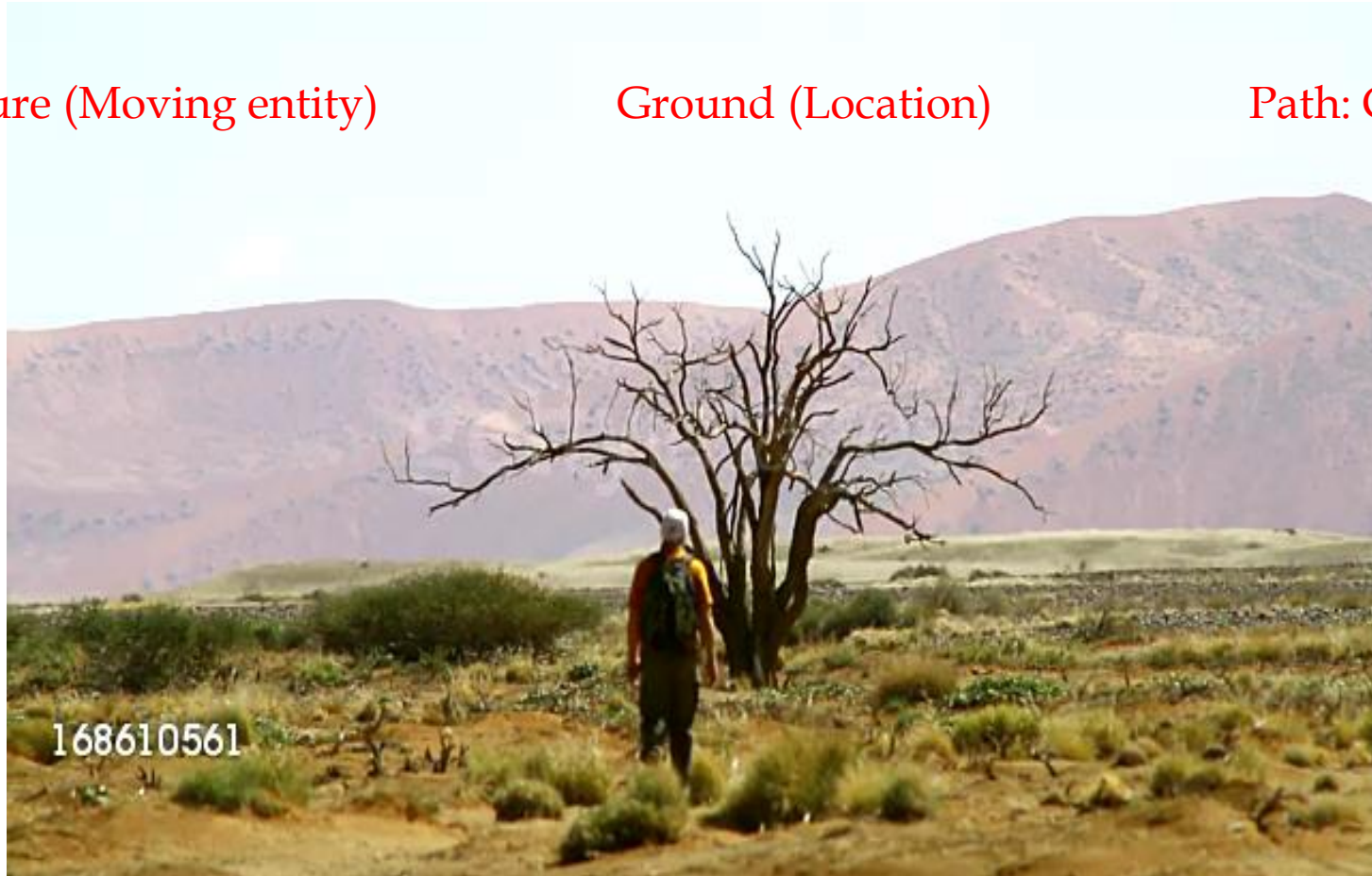
Goal of motion

(Talmy 2000)

Figure (Moving entity)

Ground (Location)

Path: Goal



<http://www.gettyimages.com/detail/video/man-walking-towards-solo-tree-in-barren-landscape-stock-video-footage/168610561>

Introduction

Source of motion

(Talmy 2000)

Figure (Moving entity)

Ground (Location)

Path: Source



<http://www.gettyimages.com/search/more-like-this/168610561?sort=best&excludenudity=true&family=creative>

Introduction

- The starting point (the Source) and the ending point (the Goal) do not constitute an equal pair of concepts

(see, among others, Ikegami, 1979; 1987; Landau & Zukowski, 2003; Stefanowitsch & Rohde, 2004; Lakusta & Landau, 2005; Papafragou, 2010; Georgakopoulos, 2018; Georgakopoulos & Sioupi 2015).

- Labels:
 - 'Source-Goal asymmetry'
 - 'Goal bias'
 - 'Goal-over-Source bias/ principle'
 - 'Goal-over-Source-predominance'

Introduction

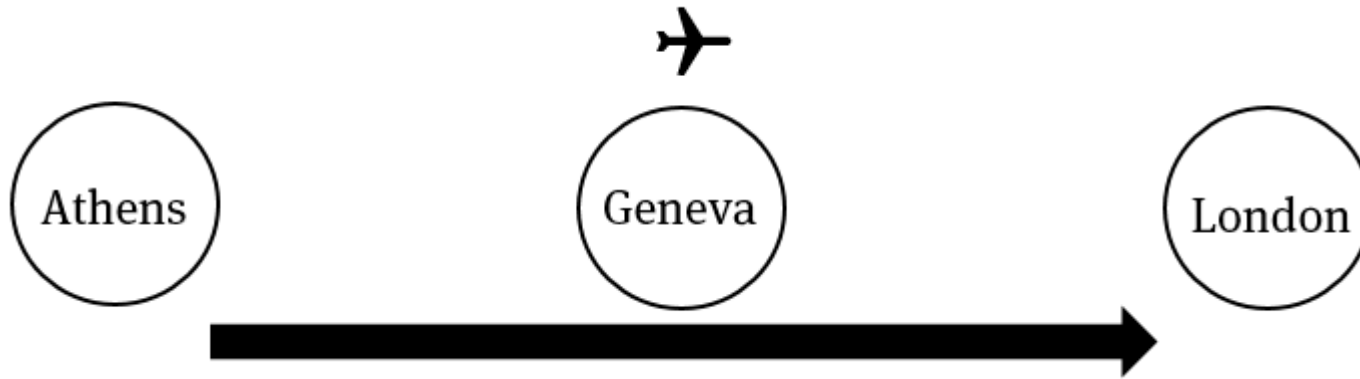


Figure 1. A route that contains all components of the path schema

- (1.1) Anna flew from Athens though Geneva to London yesterday
- (1.2) Anna flew from Athens to London yesterday
- (1.3) Anna flew to London yesterday
- (1.4) Anna flew from Athens yesterday

Introduction

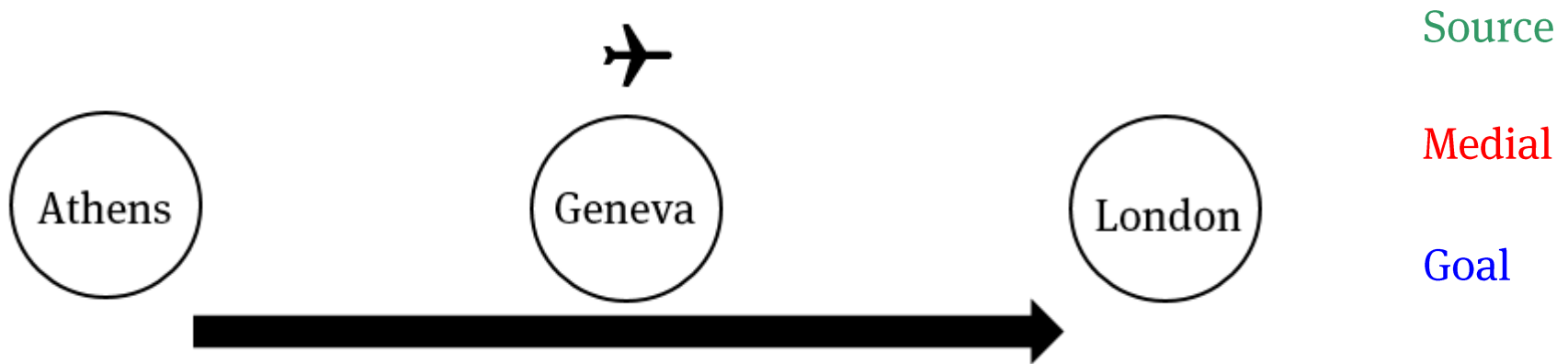


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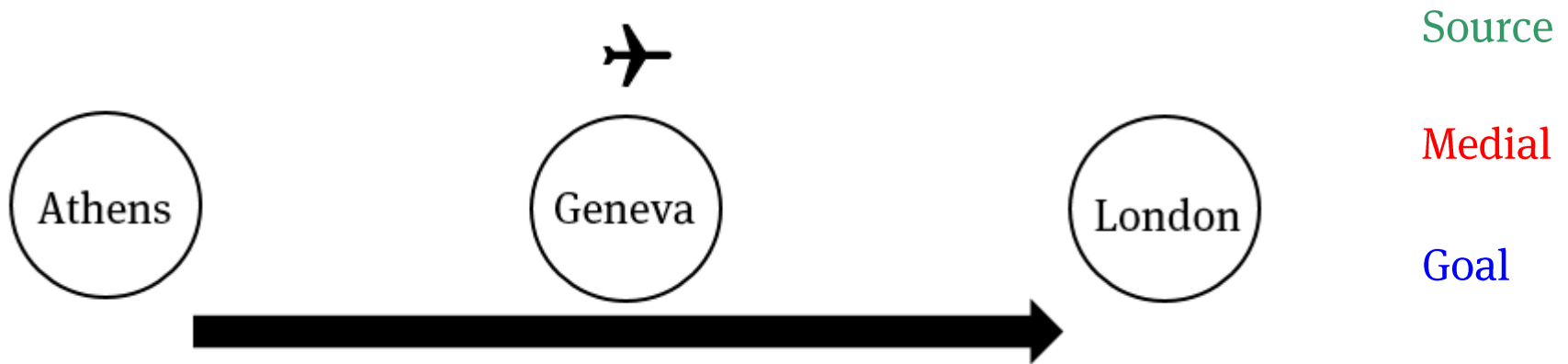


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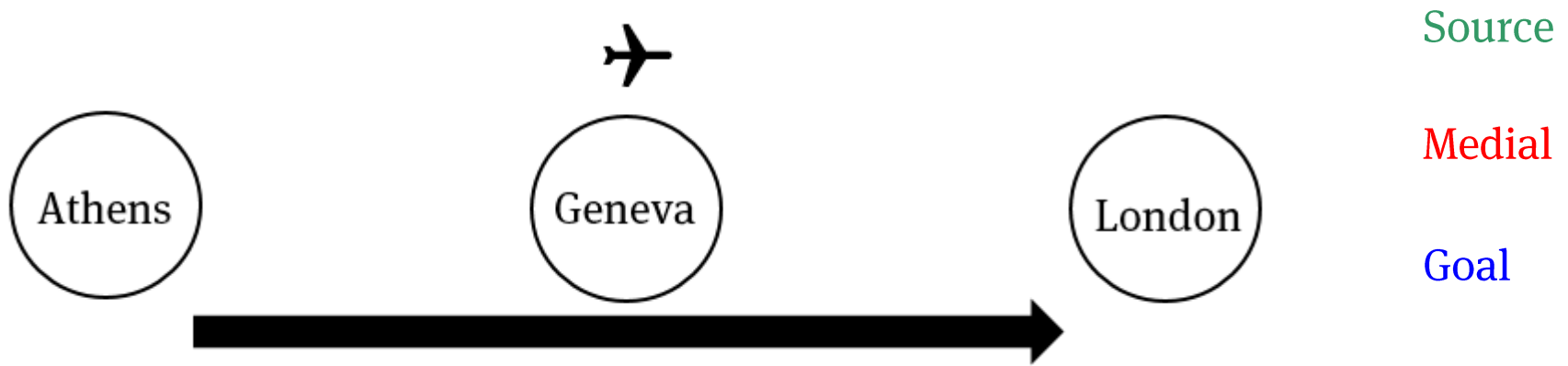


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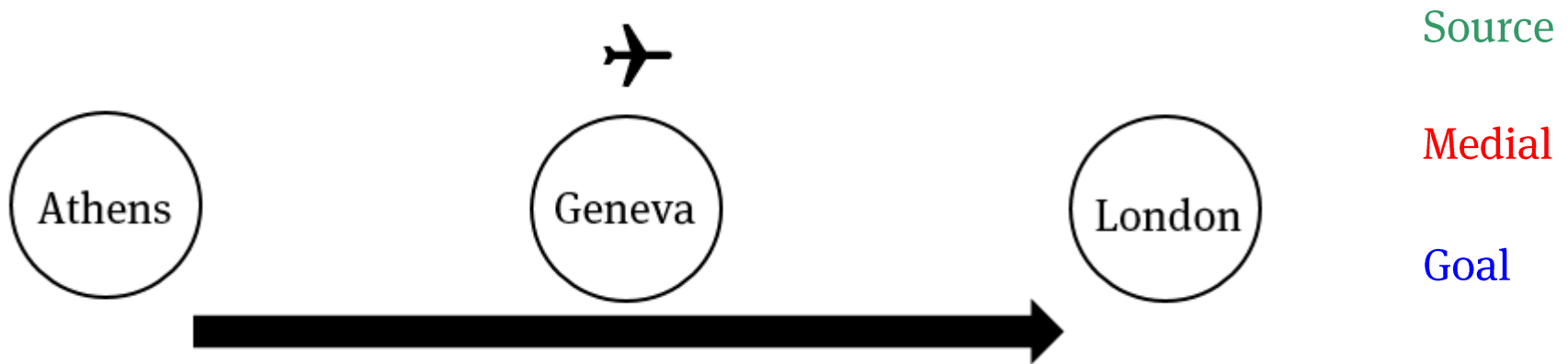


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Introduction

- A clear preference for the endpoint of motion is reported:
 - Goals are often mentioned as being the unmarked member of the contrasting pair Source-Goal.
(Ikegami, 1987; Fillmore, 1997; Taylor, 1995: 128)
 - For example, Goal markers are more often phonetically zero than Source markers
(Stolz et al., 2014)
 - Goals are often mentioned as having more prominent syntactic status than Sources (i.e. being arguments, rather than adjuncts).
(Nam, 2004)
- This preference for the Goal has been attributed to a perceptual bias favoring the endpoint over the starting point.
(Regier & Zheng, 2007)

Against linguistic Goal-bias

- Gehrke (2008)–contra Nam (2004)–argues that the Goal-bias is only cognitive and does not result in semantic or syntactic asymmetries between Goals and Sources.
- In Polish, the linguistic encoding of the “Putting” (i.e. Goal-oriented) events and “Taking” (i.e. Source-oriented) events balances between symmetry and asymmetry.
(Kopecka 2012; see also Petersen 2012)

Research questions

Broad question

Does Ancient Greek exhibit symmetry or asymmetry in the representation of the Source and the Goal in motion events?

Specific questions

Q₁: Does the asymmetry depend on the lexical semantics of the verb?

(Sections: corpus analyses I, II, III)

Q₂: Is there an imbalance in the directionality of change of Source and Goal markers?

Q_{2a}: How do Source and Goal markers interact with Place markers

Q_{2b}: Is this relation symmetrical or asymmetrical wrt directionality of change

(Section: Diachronic mergers of Goal – Place / Source – Place)

Theoretical framework

Frame Semantics

- The basic assumption is that lexical units evoke a frame and profile some aspect(s) of this frame

(Fillmore, 1985: 224; Boas, 2001; Geeraerts & Cuyckens, 2007: 4; Fillmore & Baker, 2009)

(2.1.) Jo **moved** past Dad into the hall

(<https://framenet2.icsi.berkeley.edu/fnReports/data/frame/Motion.xml>)

Source-profiled



(2.2.) We **departed** from New York on Friday

(<https://framenet2.icsi.berkeley.edu/fnReports/data/frameIndex.xml?frame=Departing>)

Theoretical framework

Frame Semantics

- The basic assumption is that lexical units evoke a frame and profile some aspect(s) of this frame

(Fillmore, 1985: 224; Boas, 2001; Geeraerts & Cuyckens, 2007: 4; Fillmore & Baker, 2009)

Medial-profiled



(2.3.) As the train **crossed** the bridge, the entire span collapsed, sending eleven railcars and one locomotive into the creek below

(<http://goo.gl/0OPftx>)

Goal-profiled



(2.4.) Some students **arrived** at the school on Sunday

(<https://framenet2.icsi.berkeley.edu/fnReports/data/frameIndex.xml?frame=Arriving>)

Statement: the frame semantics of a motion verb influences the distribution of Path expressions

(Stefanowitsch and Rohde 2004)

Data and Methodology

Diachronic Stage	Date	Author	Work	Subcorpus	Words
A	8 th B.C.	Homer	Odyssey, Iliad	Epic poetry	198,977
B	5 th B.C.	Euripides	Medea, Hippolytus, Andromache, Hecuba, Electra, Heracles, Iphigenia in Tauris, Phoenissae, Orestes, Bacchae, Iphigenia in Aulis	Tragedy	96,047
	5 th B.C.	Herodotus	The Histories	History	184,947
	5 th B.C.	Thucydides	History	History	150,173
	5 th -4 th B.C.	Aristophanes	Acharnians, Knights, Clouds, Wasps, Peace, Birds, Lysistrata, Thesmophoriazusaes, Frogs, Ecclesiazusaes, Plutus	Comedy	94,658
					725,000

Table 1. The corpus constructed for the current study

Data and Methodology

Verb	Stage	Author (or text)	Total N tokens	N valid tokens for the analysis
eîmi, érkhomai ('to go, to come')	A	Iliad	520	150
baínō ('to walk')	A	Odyssey	173	136
pléō ('to navigate')	B	Thucydides; Herodotus	309	150
aphíkomai/ ap(h)iknéomai ('reach')	B	Thucydides; Herodotus	708	150
hikánō ('reach')	A	Iliad	126	117
pheúgō ('to flee, take flight, escape')	A & B	all authors	478	460
apérkhomai ('go away, depart')	A & B	all authors	151	140

Table 2. Motion verbs per text and diachronic stage used in the corpus analyses

Data and Methodology

Verb
eîmi, érkhomai ('to go, to come')
baínō ('to walk')
pléō ('to navigate')
aphíkomai/ ap(h)iknéomai ('reach')
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Table 3. Categorization of Motion verbs

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Neutral verbs wrt directionality

Table 3. Categorization of Motion verbs

Data and Methodology



Verb	
eîmi, érkhomai ('to go, to come')	 Neutral verbs wrt directionality
baínō ('to walk')	
pléō ('to navigate')	 Manner verbs
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pheúgō ('to flee, take flight, escape')		Source-oriented verbs
apérkhomai ('go away, depart')		Source-oriented verbs

Table 3. Categorization of Motion verbs

Coding

The data were hand-coded for the component of the path that is expressed (if any):

- **Source**
- **Goal**
- **Source and Goal**
- **None of the above** (e.g. *Medial, zero complement, non-literal complement, etc.*)



Verbs neutral wrt directionality (*eîmi*, *érkhomai*)

H_0 : When the neutral verbs *eîmi* and *érkhomai* are used, the distribution of Goal paths equals the distribution of Source paths.

(3) *héndeka* *d'* *émata* *thumòn* *etépeto*
eleven PTC day:ACC.PL.N spirit:ACC.SG.M delight:IMPF.M/P.3SG

hoîsi *phíloisin* *elthòn* *ek* *Lémnoio*
REL.DAT.PL friend:DAT.PL.M come:PTCP.AOR.NOM.SG.M ELAT Lemnos:GEN

'For eleven days' space had he joy amid his friends, having **come** forth **from Lemnos**' (Homer, *Iliad* 21.44-45)



Verbs neutral wrt directionality (*eîmi*, *érkhomai*)

H_0 : When the neutral verbs *eîmi* and *érkhomai* are used, the distribution of Goal paths equals the distribution of Source paths.

(4)	<i>elthóntes</i>	<i>d'</i>	<i>es</i>	<i>dôma</i>	<i>Diòs</i>
	come:PTCP.AOR.NOM.PL.M	PTC	ALL	house:ACC.SG.N	Zeus:GEN
	<i>nephelēgerétao</i>	<i>ksestêis</i>	<i>aithoúsēisin</i>	<i>enízanon</i>	
	cloud_gatherer:GEN.SG.M	shaped:DAT.PL.F	collonade:DAT.PL.F	sit_down:IMPF.3SG	

'And **having come to the house** of Zeus they sate them down within the polished colonnades' (Homer, *Iliad* 20.10-11)



Verbs neutral wrt directionality (*eîmi*, *érkhomai*)

H_0 : When the neutral verbs *eîmi* and *érkhomai* are used, the distribution of Goal paths equals the distribution of Source paths.

H_1 : When the neutral verbs *eîmi* and *érkhomai* are used, Goal paths prevail in terms of frequency over Source paths.

(cf. Stefanowitsch and Rohde 2004 for English)



Verbs neutral wrt directionality (*eîmi*, *érkhomai*)

Type of expression	N (%)
Goal	67 (44,7%)
Source	11 (7,3%)
Source + Goal	1 (0,7%)
Other (Medial, zero, non-literal, etc.)	71 (47,3%)
TOTAL	150 (100%)

Table 4. Frequencies for the type of expressions occurring with the verbs *eîmi* and *érkhomai*



Manner verbs (baínō, pléō)

*H*₂: Due to the Goal bias, verbs that encode the manner of motion will choose more frequently Goal paths rather than Source paths.

(cf. Stefanowitsch and Rohde 2004 for English)

(5) *bê* *pròs* *dôma* *Diòs*
walk:AOR.3SG towards house:ACC.SG.N Zeus:GEN

‘he went **to the house** of Zeus’ (Homer, *Iliad* 5.398)

(6) *bê* *dè* *kat'* *Idaiōn* *oréōn*
walk:AOR.3SG PTC down Ida:GEN.PL mountain:GEN.PL.N

‘But went down **from the hills of Ida**’ (Homer, *Iliad* 15.237)



Manner verbs (*baínō*, *pléō*)

	Goal	Source	Source + Goal	Other (Medial, zero, non-literal, etc.)	TOTAL
M ₁ : <i>baínō</i>	50 (36.8%)	6 (4.4%)	1 (0.7%)	79 (58.1%)	136 (100%)
M ₂ : <i>pléō</i>	76 (46.7%)	13 (8.7%)	2 (1.3%)	65(43.3%)	150 (100%)

Table 5. Frequency distribution of the expressions occurring with *baínō* and *pléō*



Directional verbs

*H*₃: The specific frame a motion verb belongs to has an effect on the choice of the locative argument. Goal-profiled verbs will preferably occur with Goal paths and Source-profiled verbs with Source paths

(cf. Stefanowitsch and Rohde 2004 for English)



Directional verbs

	Goal	Source	Source + Goal	Other (Medial, zero, non-literal, etc.)	TOTAL
G ₁ : aphíkomai/ ap(h)iknéomai	91 (60.7%)	7 (4.7%)	4 (2.66%)	48 (32%)	150 (100%)
G ₂ : hikánō	97 (82.9%)	1 (0.85%)	2 (1.7%)	17 (14.52%)	117 (100%)
S ₁ : pheúgō	59 (12.8%)	37 (8%)	7 (1.5%)	357 (77.6%)	460 (100%)
S ₂ : apérkhomai	28 (20%)	13 (9.28%)	2 (1.4%)	97 (69.3%)	140 (100%)

Table 6. Frequencies for expressions occurring with the directional verbs



Directional verbs

	Goal	Source	Source + Goal	Other (Medial, zero, non-literal, etc.)	TOTAL
G ₁ : aphíkomai/ ap(h)iknéomai	91 (60.7%)	7 (4.7%)	4 (2.66%)	48 (32%)	150 (100%)
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Table 7. Frequencies for incongruent combinations



Directional verbs

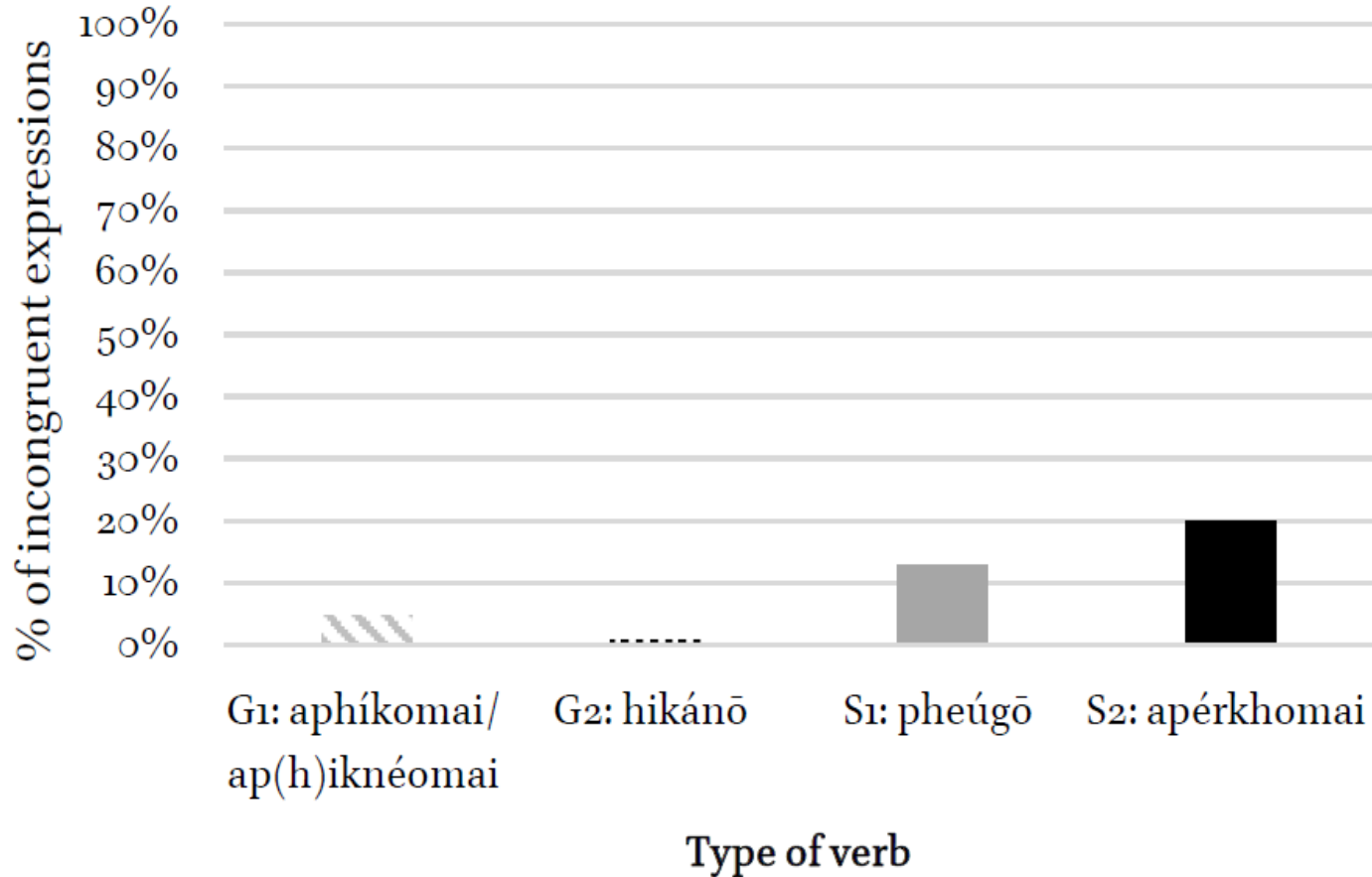


Figure 2. Directional verbs in their occurrence with incongruent expressions

$G_1 + \text{Path}_{\text{SOURCE}} - S_1 + \text{Path}_{\text{GOAL}}: \chi^2(1) = 7.8, p < .01$

$G_1 + \text{Path}_{\text{SOURCE}} - S_2 + \text{Path}_{\text{GOAL}}: \chi^2(1) = 16.04, p < .01$



Category	Markers used in Source contexts	Markers used in Goal contexts
<(Proper) Preposition + case>	<ol style="list-style-type: none"> 1. <i>apó</i> (ABL) + gen. 2. <i>ek</i> (ELAT) + gen. 3. <i>katá</i> (DIR.INFR) + gen. 4. <i>pará</i> (LAT) + gen. 5. <i>hupó</i> (INFR) + gen. 	<ol style="list-style-type: none"> 1. <i>eis</i> (ALL) + acc. 2. <i>prós</i> (PROX) + acc. 3. <i>pará</i> (LAT) + acc. 4. <i>epí</i> (SUPR) + acc. 5. <i>hupó</i> (INFR) + acc. 6. <i>katá</i> (DIR.INFR) + acc. 7. <i>epí</i> (SUPR) + gen.
<(Improper) Preposition + case>		<ol style="list-style-type: none"> 8. <i>mékhri</i> + gen. 'up to' 9. <i>ithús</i> + gen. 'straight at' 10. <i>ánta/antíos/enantíos</i> + gen. 'against' 11. <i>skhedón</i> + gen. 'near' 12. <i>hōs</i> + accus. 'up to a person'
Cases	6. genitive	<ol style="list-style-type: none"> 13. accusative 14. dative
Adverbs; Suffixed adverbs, nouns	<ol style="list-style-type: none"> 7. <i>énthen</i> ('thence') 8. <i>hokóthen</i> ('whence') 	<ol style="list-style-type: none"> 15. <i>állose</i> ('elsewhither') 16. <i>entháde</i> ('hither, here') 17. <i>éntha</i> ('here, hither') 18. <i>deíro</i> ('hither, here') 19. <i>ekeíse</i> ('thither') 20. <i>eggúthen</i> ('close') 21. <i>hóthi</i> ('where') 22. <i>kátō</i> ('below') 23. <i>mēdaméi</i> ('nowhere') 24. <i>opísō</i> ('backwards, back') 25. <i>oíkade</i> ('to one's home or country') 26. <i>pálin</i> ('backwards, back') 27. <i>pêi</i> ('whither?, where?') 28. <i>poi</i> ('whither?') 29. <i>póse</i> ('whither?')

Table 9. List of Sources and Goals accompanying the motion verbs of the study

- Certain markers are found in both Place and Goal contexts

(9) *ek toû dè naíeis enthád' ásteōs hekás*
 ELAT ART.GEN.SG.N PTC live:PRS.2SG LOC city:GEN.SG.N afar
 ‘Why are you **living here**, far from the city?’ (Euripides, *Electra* 246)

(10) *sōtheìs d' ekeíthen enthád' êlthes*
 SAVE:PTCP.AOR.PASS.NOM.SG PTC LOC LOC come:AOR.2SG

es sphagás
 ALL slaughter:ACC.PL.F

‘and, saved from there, you have **come here** to the slaughter.’ (Euripides, *Helena* 778)



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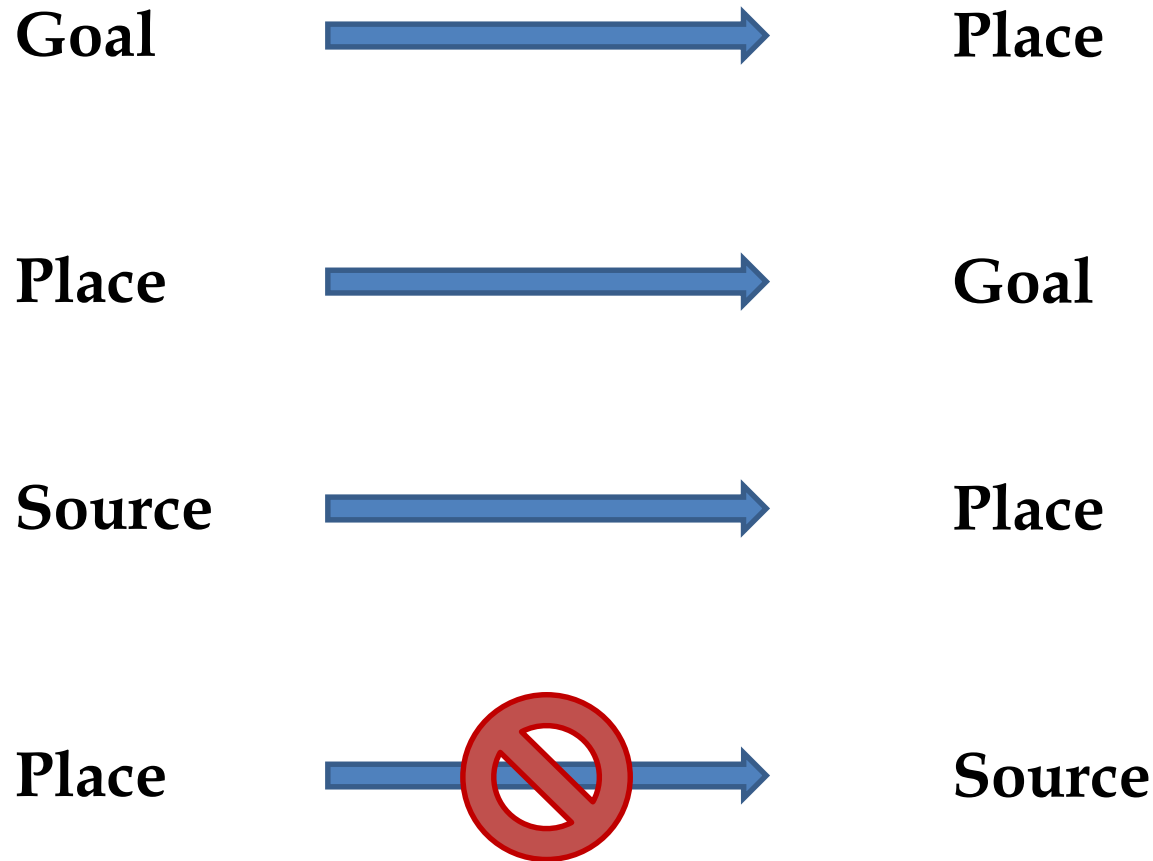


Figure 3. Processes leading to formal identity of expressions (based on the constructed corpus)



- Motion verbs – regardless of the semantic class – display preference for Goals compared to Sources
 - ⇒ the impact of the Goal bias onto the choice of the spatial argument is stronger than the impact of verbal semantics (contra Stefanowitsch and Rohde 2004)
- The factor of semantic incongruence affects the distribution of both locative roles
 - The combination of a Source-profiled verb with a Goal path is more frequent than the combination of a Goal-profiled verb with a Source path

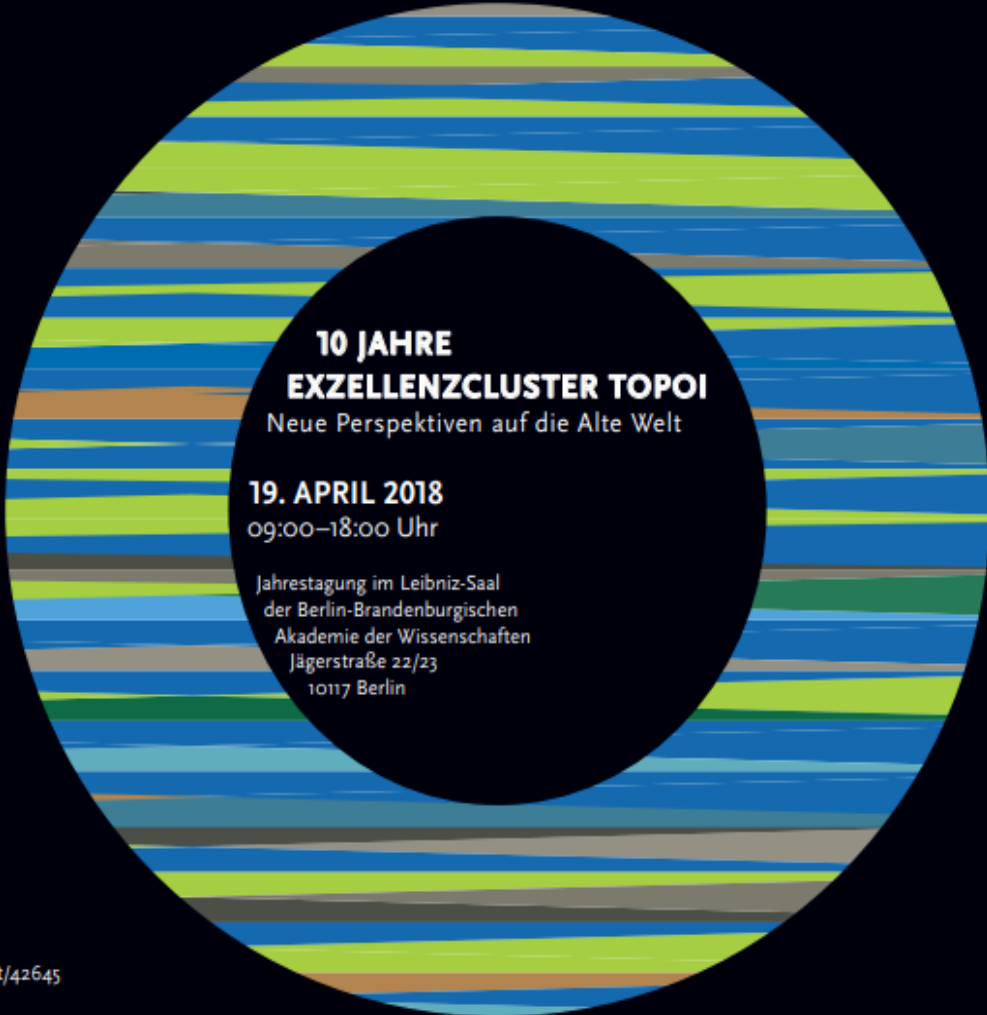
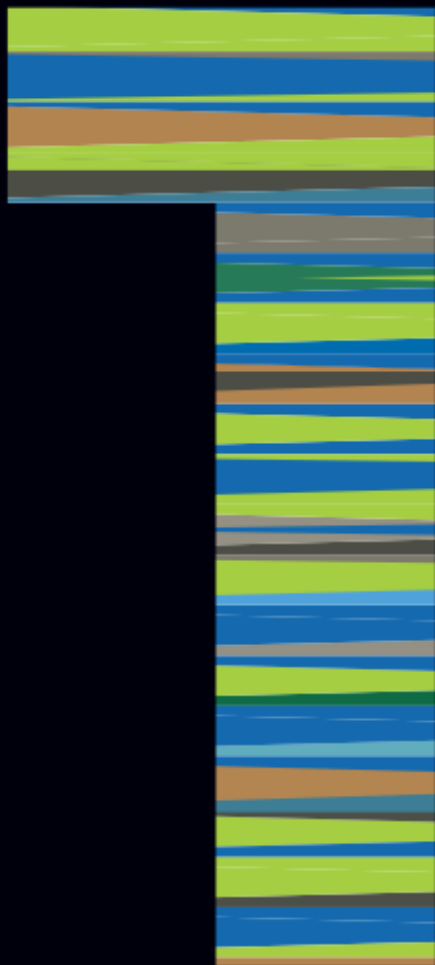


- Wrt the directionality of change, both Goal and Source markers can develop a Place meaning, but Place markers can only develop a Goal-not a Source-meaning
- The ancient world (its investigation) offers a new perspective and understanding of the phenomenon of Source-Goal asymmetry.

References (selection)



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**10 JAHRE
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19. APRIL 2018
09:00–18:00 Uhr

Jahrestagung im Leibniz-Saal
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Jägerstraße 22/23
10117 Berlin

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