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### Anastasia V. Yakovleva

Greek spatial terms in diachrony: right/left, cardinal directions.

Dissertation Summary
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#### **Publications**

Three publications were selected for the defense:

- Yakovleva A. V. Prostranstvennye otnoshenija «sprava/sleva» v kafarevuse: korpusnoe issledovanie [Right/left spatial relations in Katharevousa Greek: a corpus study]. // Vestnik Pravoslavnogo Svjato- Tihonovskogo gumanitarnogo universiteta. Serija 3: Filologija [St. Tikhon's University Review. Series 3: Philology]. 2019. Vol. 58. No. 1. P. 43-58.
- Yakovleva A. V. Storony sveta v drevnegrecheskom jazyke i sistemy prostranstvennoj orientacii [Cardinal directions in Ancient Greek and the systems of spatial orientation] // Acta Linguistica Petropolitana. Trudy instituta lingvisticheskih issledovanij [Acta Linguistica Petropolitana. Transactions of the Institute for Linguistic Studies]. 2021. No. 2 (forthcoming)
- Chechuro I., Yakovleva A. Spatial Semantics: Recent Advances // Voprosy Jazykoznanija. 2019. No. 3. P. 125-142.

The results of the present study are also presented in the forthcoming paper:

• Yakovleva A. V. Morfosintaksis novogrecheskih prostranstvennyh narechij v diahronicheskoj perspective [The morphosyntax of Modern Greek spatial adverbs in diachrony] // Izvestija Rossijskoj akademii nauk. Serija literatury i jazyka [Bulletin of the Russian Academy of Sciences. Studies in language and literature]. 2021. No. 5 (forthcoming)

### Conference presentations and public demonstrations of the results

The main results and conclusions of the present study have been presented in 2018–2019 in oral and poster presentations at international conferences, including:

- Anthropology. Folkloristics. Sociolinguistics. (Saint-Petersburg).
   Presentation: Grecheskaja diglossija: korpusnoe issledovanie strategij markirovanija prostranstvennyh otnoshenij [Greek diglossia: a corpus study of the strategies of encoding spatial relations] (2019)
- Neglected Aspect of Motion Events Description (On Fictive Motion in Language) (Paris). Presentation: Cardinal points and fictive motion strategies: a diachronic perspective (2019)
- 14th International Conference on Greek Linguistics (ICGL14) (Patra).

  Presentation: Mixed categories in Modern Greek: The case of spatial adverbs (2019)
- 9th International Colloquium on Ancient Greek Linguistics (ICAGL 9) (Helsinki). Poster: The impact of cartography on cardinal direction terms: evidence from Ancient Greek data (2018)
- 8-th Conference 'Typology of morphosyntactic parameters' (Moscow).
   Presentation '). Presentation: Izmenenie modeli upravlenija novogrecheskih prostranstvennyh narechij [The change of adverbial patterns in Modern Greek] (2018)

#### 1. Introduction

The papers included in the present dissertation are united by the topic of diachronic development of semantic and morphosyntax of Greek spatial terms (in particular 'right/left' and cardinal directions) in a typological perspective.

Although these spatial expressions are usually low-frequent and peripheral, they are quite widely represented in the scientific literature devoted to synchronic analysis. Mainly we mean the studies on frames of reference (FOR) in language.

There are several classifications of frames of reference; the most popular threefold system is represented in [Levinson 2003: 24-61]:

- in the <u>intrinsic</u> FOR, the coordinate system is projected from the Ground, i.e. this relation is binary and view-independent (*This man is in front of the house* means that the location of the Figure (*man*) is determined as a projection from the inherent front part of the Ground (*house*)).
- The FOR is ternary, based on the Observer (the location of the Figure in *The ball is in front of the tree*, is determined in terms of the Observer's, rather than Ground's front, as the Ground (*tree*) is symmetrical and has no intrinsic front).
- The absolute frame of reference expresses a relation between the Figure and the Ground using a system of fixed absolute points (e.g. cardinal directions).

So, the situation can be described differently depending on the frame of reference, and there is a research area devoted to the preference of FORs in different languages and cultures. For instance, in Negev Arabic the absolute FOR is used also for describing small-scale spatial relations and even body parts [Cerqueglini, Henkin 2017]. The speakers of Guugu Yimithirr (Australia) also prefer absolute encoding strategies [Haviland 1998: 25]. Tseltal speakers (Mexico) use natural landscape features ('uphill' and 'downhill') as abstract cardinal directions, which do not always correspond to the real landscape [Levinson 2003: 148].

Since FOR systems are used not only for the verbal description of spatial relations, but are also crucial for the spatial reasoning, some special methods of elicitation and non-verbal experiments were developed to determine the preferences of spatial description and spatial reasoning of speakers of different languages. [see

Brown, Levinson 1993; Pederson et al. 1998; Levinson et al. 2002; Bohnemeyer 2008; O'Meara & Pérez Báez 2011]. Preferable cognitive and linguistic strategies do not always coincide [Nikitina 2018], and the preferences of one or another FOR system can be explained by extralinguistic factors [Li, Gleitman 2002: 288-290].

This variability raises a question about the primacy of one or another FOR and makes researchers delve deeply into language acquisition and child speech studies. A number of experiments were developed in order to determine how children acquire and interpret the meaning of terms for 'right/left' and geocentric landmarks; the research was carried out among the speakers of 'egocentric' European languages [see Shusterman, Li 2016], and in the communities demonstrating a strong preference for absolute FOR [Haun et al. 2011; Abarbanell, Li 2015; Li, Abarbanell 2018; Abarbanell, Li 2020].

The studies investigating 'right/left' and cardinal directions in diachrony are mainly concentrated on the etymology and the lexical sources of the terms. However, right/left spatial terms and cardinal directions are out of scope even of the extensive study "The grammar of space" [Svorou 1994], analyzing the diachronic development of spatial terms in world languages.

There exists a number of studies on the lexical sources of cardinal directions terms: in languages of Africa [Brauner 1998; Otten 2005; Mietzner, Pasch 2007; Lusekelo 2018], Germanic languages [Brown 1978, Haugen 1957], languages of Australia [Nash 2013] and Philippines [Gallego 2018], Chinese [Chen 2009], Arabic and Tamil [Naïm S., Pilot-Raichoor 2016]; there is also an extensive typological study of the lexical sources of cardinal points on the basis of 127 languages [Brown 1983], however, these works usually do not consider the morphosyntax of the construction and their diachronic development.

The paper [Mackenzie 1978] investigates the ablative and allative encoding of static location in world languages and adduces two examples with right/left terms and cardinal directions, that either have ablative origin (German) or are encoded by allative and ablative markers on the synchronic level (Hebrew). The author calls this phenomenon *ablative-locative transfer* and draws attention to the fact that many

locative markers have ablative origin. He explains it by lexicalization caused by ambiguous contexts, which can be interpreted both as locative and ablative.

However, Tatiana Nikitina claims that in the case of ablative-locative transfer we do not deal with a reanalysis and abrupt change, but rather with a productive strategy of encoding location by directional expressions (both ablative and allative), which can be described in terms of fictive motion (type "access paths", see [Talmy 2000a: 147-212]). Usually this means is used for the marking of low-frequent peripheral spatial relations, such as 'right/left' and cardinal points; it can be related to the fact that more frequent spatial terms (e.g., *in front*, *behind*, *below*) can often grammaticalize into adpositions or affixes [see more in Svorou 1986; Svorou 1994], whereas low-frequent right/left and cardinal directions do not usually demonstrate such behavior.

So, the peripheral spatial contexts and their diachronic development are understudied, and the *relevance* of the present dissertation resides in the opportunity to investigate in detail the process of grammaticalization of spatial terms on the Greek data. As far as I know, it is the first corpus research of these terms embracing the data of different language periods.

The central goal of this study is to describe the diachronic development of the semantics and morphosyntax of the terms 'right/left' and cardinal directions, based on corpus data in typological perspective, and to reveal the factors influencing the choice of an encoding strategy of these spatial relations.

The scientific novelty of the study consists in the fact that this is the first extensive corpus study of the peripheral spatial terms comprising both qualitative and quantitative analysis and integrating the Greek data into the typological context and modern theoretical frameworks.

# The theoretical significance of the research:

- The grammaticalization chain of peripheral spatial terms was reconstructed based on the corpus data; I described the peculiarities of morphosyntax of each stage of grammaticalization and put forward the hypotheses explaining these phenomena.
- It was assumed that the narrative strategies of describing space can be related to

the morphosyntactic strategies, and that the preferable orientation system can influence these strategies.

- The material of Katharevousa (an artificial archaized variety of Greek) was included into the study, and this offers new prospects of research of the Greek diglossia based on the corpus data.

# The practical significance of the research:

The results obtained in this study can be used for teaching various courses in graduate and postgraduate programs in linguistics, such as Historical linguistics, Lexical and Grammatical typology, as well as teaching Ancient and Modern Greek.

The remaining part of this summary will be a synopsis of the articles up for defense.

# 2. Cardinal directions in Ancient Greek and the systems of spatial orientation

Article selected for the defense: [Yakovleva 2021 (forthcoming)]

In the paper, the results of a corpus study of cardinal directions terms based on Ancient Greek data are presented. The morphosyntax of most static contexts allows for a literal interpretation of the cardinal directions as concrete landmarks. I put forward a hypothesis that the preference for such encoding strategies is related to the so-called 'hodological' spatial narrative typical of ancient cultures. In this type of spatial description, the spatial relations are represented as a way of an imaginary observer.

The terms for cardinal directions are particularly interesting with respect to their semantics and etymology. According to Brown, 1983, cardinal direction terms in world languages have four main lexical sources: celestial bodies and events (e.g. Ancient Greek  $\mathring{a}\rho\kappa\tau\sigma\varsigma$  'the Bear constellation/north'), atmospheric features (e.g. Ancient Greek  $v\acute{o}\tau\sigma\varsigma$  'south wind/south'), other more general directions (e.g. "front" in some languages means 'south'), and environment-specific features (e.g. "sea" or "mountains" means "east"). These diachronic tendencies suggest that the original terms served as concrete landmarks for orientation, and only later developed abstract meanings. The question that arises is whether these original meanings can influence the strategies of describing location in terms of cardinal directions.

It is noteworthy that one cannot live "in" or "on" the Bear constellation, so that lexical item cannot have only the literal meaning. One can expect constructions 'under the Bear/north' or 'near the Bear/north' as well as 'access paths' (see Talmy 2000: I, 136-137) — a strategy for marking location by directional expressions, specifying how one can reach the Figure's location if they start from the Ground (to/from the Bear).

To test this hypothesis and reveal the most popular strategies of marking location, I analyzed the use of cardinal direction terms in the TLG corpus (Thesaurus Linguae Graecae), in the texts of the  $8^{th} - 3^{rd}$  c. B.C. (Homer, Hesiod, Aeschylus,

Sophocles, Euripides, Herodotus, Thucydides, Xenophon, Plato, Aristotle and the Corpus Aristotelicum), and in the geographical texts of later times (Agatharchides, Strabo, Claudius Ptolemy). It was found that the most frequent strategy of marking location is indeed the directional marker *pros* 'towards', whereas the locative markers *en* 'in' and *epi*+genitive case 'on' are not attested in spatial contexts. In sum, almost all the means for marking location in terms of cardinal directions attested in the sample of the  $8^{th} - 3^{rd}$  c. B.C. allow for a literal interpretation of cardinal terms as concrete landmarks. However, in Claudius Ptolemy's texts ( $2^{nd}$  c, A.D.), we observe some traces of decline of this system: here the cardinal terms are not ambiguous and can only be interpreted as abstract directions (e.g., 'west of the island', but not 'sunset of the island').

One possible explanation for such a preference is that the dynamic marking of static location may be related to the so-called hodological narrative (representation of location in terms of a route to a destination), cf. Xenophon (Anab.6.4.1): 'this portion of Thrace begins at the mouth of the Euxine and extends as far as Heracleia, being on the right as one sails into the Euxine'. This practical orientation strategy was typical of the Greek periplus (instructions for seafarers); it is an alternative to the cartographic, two-dimensional representation of space, which developed later and is attested in scientific Ptolemy's texts.

The lexical sources of cardinal directions terms (celestial bodies and events) are the landmarks which help in long-distance travelling, so it seems natural to suggest that the conventional encoding strategies of location were influenced by the primary orientation system and the literal meaning of the cardinal directions terms.

Despite that almost all contexts allow for literal interpretation of the terms, there are some signs of the semantic shift: there exist contexts where only abstract interpretation is possible, especially in Claudius Ptolemy's texts (2 AD). This can be related not only to the dating of the text, but also to the fact that the author mainly uses the cartographic spatial narrative and the text itself represents a scientific description.

## 3. Right/left spatial relations in Katharevousa Greek: a corpus study

# Article selected for the defense: [Yakovleva 2019]

In this article I analyze the variation in the encoding of spatial terms 'right/left' in Katharevousa Greek (an artificial archaizing register of Greek which functioned as the official language of Greece in XIX-XX centuries).

The history of the Modern Greek language is closely related to the notion of diglossia – a coexistence of two forms of one language: a formal and a colloquial. The speakers perceive them as one language; importantly, the formal register is more artificial, standardized, and is acquired during the process of formal education [Ferguson 1959: 325–330].

Modern Greek diglossia emerged as a reaction to the problem of standardization of the language of independent Greece in the XIX century. There was a severe confrontation between the Classicists (the ruling class, maintaining the idea of regeneration of the old Attic dialect of the 5<sup>th</sup> century B.C.) and the Demoticists (mostly socialists, claiming that the standard written language must be based on Modern Greek dialects). Finally, the compromisers, who proposed a 'middle way', won the dispute, and a new artificial archaizing register Katharevousa (lit. "purifying") was created. Henceforth, diglossia entrenched itself in Greek society for almost two centuries, until the official demise of Katharevousa in 1976. As mentioned earlier, Katharevousa Greek is a purified and archaized language, but in fact the opposition between Katharevousa and Demotike (colloquial form of Greek) is more complicated than just formal and colloquial registers of one language [Mackridge 2012: 170].

Although there are a lot of texts written in Katharevousa, the language remains severely understudied. In the project "The Corpus of Modern Greek"<sup>1</sup>, I was responsible for the Katharevousa subcorpus. Apart from collecting the texts, I wrote a program to automatically enhance the Katharevousa morphological dictionary. So,

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<sup>&</sup>lt;sup>1</sup> Corpus of Modern Greek URL: http://web-corpora.net/GreekCorpus/search/?interface\_language=ru (accessed: 30.04.2020)

the morphologically annotated data became available for qualitative and quantitative linguistic research.

The peripheral spatial relations that are at the center of my study can give us valuable new information on the sources of this artificial language, since the strategies for marking them are not codified and demonstrate an extremely high level of variation. After gathering the expressions for 'right'/'left' and cardinal directions into a database, I analyzed the Katharevousa strategies for marking spatial relations in comparison to those of Ancient and Modern Greek. Since Katharevousa is a language with archaizing grammar and lexicon, one would expect it to copy the ancient means for marking "right" and "left". However, even translators of classical texts into Katharevousa used strategies that differed radically from those of the ancient writers. Adverbs are the most popular strategy of encoding 'right'/'left' in Katharevousa; this strategy is rather innovative and typical of Modern Greek. Moreover, Classical Greek texts do not seem to have much influence on spatial markers in Katharevousa; however, strategies typical of the Septuaginta and New Testament are widely attested. Some strategies are attested in Katharevousa only; it may be an exquisite archaization or reflect features of the spoken language of the elite that had some archaic features [Fedchenko 2016: 236-239].

Thus, in the domain of 'right/left' spatial relations, the archaization is quite limited; furthermore, it is not codified, so it often depends on extralinguistic factors, such as the genre of the text and the individual preferences of the writer.

## 4. Spatial Semantics: Recent Advances

Article selected for the defense: [Chechuro, Yakovleva 2019]

In this paper, we discuss the most recent trends in the study of space and time. We mainly consider four volumes — Space and Time in Languages and Cultures: Language, Culture, and Cognition (2012), Motion encoding in language and space (2013), The Spatial Language of Time. Metaphor, Metonymy and Frames of Reference (2014), and Space in diachrony (2017) — that cover a relatively broad set of topics and approaches. The main topics the authors focus on are: language-specific systems of space and time conceptualization, cultural differences in

understanding time, space and time (dis)analogy, granularity, frame of reference, verbs of motion, and Source vs. Goal asymmetry. The methods that the contributors apply are versatile, ranging from formal and experimental to anthropological participant observation, and lexical typology. Many of the papers collected in these volumes deal with similar problems, applying different frameworks to them, which makes it possible to compare how different approaches handle similar problems and thus reveal how they may be combined. This reflects one of the strongest trends in modern linguistics, namely the tendency to conduct interdisciplinary studies that allow to view the same data from different angles simultaneously.

My part of the overview is dedicated to the recent studies of frames of reference in space and time and to the diachronic changes in the domain of spatial relations. The paper allowed to reveal the most relevant theoretical problems and lacunas in this field; furthermore, the book [Luraghi et al. 2017] comprises several studies based on Ancient and Modern Greek data.

The historical approach to spatial relations is very promising, but this area remains severely understudied. One of the key directions of the research is the Source-Goal asymmetry. Here the diachronic data may give the answers to some pivotal questions: how the asymmetry appears; why Goal and Location (but not the Source!) are often encoded by the same means; is the process of grammaticalization and bleaching faster in Goal markers than those of Source. The 'Goal bias hypothesis' is mostly confirmed; however, there are some unusual cases. Some studies demonstrate the results that contradict the Goal bias hypothesis [see Luraghi 2017; Zanchi 2017]; nevertheless, they do not reject it, but rather suggest language-specific explanations of these phenomena.

A number of papers in the volume investigate the connections between the Source-Goal asymmetry and the patterns of describing motion events (verb-framed or satellite-framed; see [Talmy 2000a; 2000b]). In [Iacobini et al. 2017] it is shown that a remarkable example of Goal bias can be observed in satellite-framed Ancient Greek and Latin: only the Goal of motion is usually expressed explicitly in the texts. Then, the verb lexicalizes and incorporates the meaning of the satellite, whereby the

language shifts to the verb-framed system. Hence, the data of classical languages indicate that the avoidance of complex paths represents a significant factor, enhancing the probability of the shift to the verb-framed type. Based on the Old and Modern French data, it was shown that satellite-framed languages tend to describe the trajectory in more detail [Kopecka 2017], but a typological study by [Verkerk 2017] demonstrates, that diachronic data can sometimes provide very contradictory results due to limited samples and the preferences of writers.

The diachronic approach to the interaction between different semantic roles is also applied in some papers of the volume. The means of encoding location often have Source markers as their origin, and this is explained as a result of ablative-locative transfer and ambiguous contexts in [Thomason, Eckhoff 2017; Stolz et al. 2017]), and fictive motion strategies in [Nikitina 2017].

Thus, the authors of the overviewed papers put forward a number of interesting hypotheses explaining the development of the asymmetry of spatial semantic roles, their differential marking, and overlaps in the encoding of spatial relations. Moreover, the diachronic approach can significantly complement the quantitative typological studies on synchronic material and cover their methodological limitations.

## 5. The morphosyntax of Modern Greek spatial adverbs in diachrony

In this study I suggest that a mixed category analysis can be applied to Modern Greek spatial adverbs meaning 'right/left' and cardinal directions: these adverbs demonstrate rather unusual syntactic behavior in contrast to other, highly frequent spatial adverbs, such as *piso* 'behind' or *kato* 'below'.

Greek adverbs are often claimed to have almost completely lost the ability to govern the genitive case, which is replaced by prepositional phrases with the accusative (for example, *kato apo to trapezi* 'under the table', lit. 'below from the ACC table-ACC'). This fact is viewed as a particular case of a more general process of the decline of the genitive case [Mertyris 2014: 66]. Nevertheless, some low-frequency spatial adverbs, such as  $\delta \varepsilon \xi i \dot{\alpha}/\alpha \rho i \sigma \tau \varepsilon \rho \dot{\alpha}$  'on the right/left' and  $\beta \dot{\delta} \rho \varepsilon i \alpha/\nu \dot{\delta} \tau i \alpha/\alpha \nu \alpha \tau o \lambda i \kappa \dot{\alpha}/\delta \nu \tau i \kappa \dot{\alpha}$  'in the north/south/east/west', retain the ability to

govern the genitive case (e.g. ανατολικά της πόλ-ης - east the GEN city. GEN - 'east of the city'); the prepositional strategy is also acceptable. However, according to my corpus study based on the data of the CMG<sup>2</sup>, cardinal directions prefer this archaic model to all other options. This is unexpected, as in general, highly frequent lexical items tend to be more conservative with respect to morphology, construction choice, and syntactic position [Bybee 2007: 271-272].

Table 1
A quantitative corpus analysis of Greek spatial adverbs

	δεξιά (right)	αριστερά (left)	βόρεια (north)	νότια (south)	ανατολικ ά (east)	δυτικά (west)	κάτω (below)	πάνω (above)	μπροστά (in front)	πίσω (behind)
Adv + NPgen + NPgen	11	23	60	64	66	77	57 <sup>3</sup>	0	0	1
Adv + από + NPacc	7	5	9	8	7	7	2435	2380	531	1394
Adv + σε + NPacc	41	28	0	0	3	3	149	3033	2013	538
General amount of tokens	1015	1036	742	753	632	489	9575	17421	8527	9885

I did not manage to find in scientific literature any explanations why cardinal directions and right/left adverbs retain the ability to govern the genitive (this phenomenon is not even mentioned anywhere). However, there exist some hypotheses explaining the shift from the genitive to prepositional pattern in the morphosyntax of spatial adverbs.

This change is explained in terms of the avoidance of semantic ambiguity. For example, the Ancient Greek construction *epanō tēs oikias* 'on/over the house' has two interpretations, and corresponds to two modern constructions with different prepositions, one expressing localization in contact with the Ground (reference point) and can be translated as 'on the house'), and the other expressing distant localization ('over the house') [Theophanopoulou-Kontoú 2000: 4-7; Mertyris 2014: 73-77]. Yet, this hypothesis cannot explain why the terms for 'right'/'left' and

<sup>&</sup>lt;sup>2</sup> Corpus of Modern Greek. URL: http://web-corpora.net/GreekCorpus/search/?interface\_language=en

<sup>&</sup>lt;sup>3</sup> Only quantitative meanings (the semantic shift *below*  $\square$  *less*).

cardinal directions retain the ambiguity. In (1) the airport is outside the city center, in (2) we have the opposite situation – Deir-al-Zour is inside the country:

αεροδρόμι-ο Μπιλμπάο (1) To του βρίσκε-ται περί ART:NOM.SG airport-NOM.SG ART:GEN.SG Bilbao be located-PRS.3.SG about 9 χιλιόμετρ-α βόρεια του κέντρ-ου βασκικ-ής τα της ART:ACC.SG 9 kilometer-PL north ART:GEN.SG center-GEN.SG ART:GEN.SG main-GEN.SG πρωτεύουσ-ας.

capital-GEN.SG

'the airpot of Bilbao is situated about 9 km to the north from the centre of the main

capital' [2012.04.27 Το Βήμα]

(2) O<sub>1</sub> ένοπλ-ες δυνάμ-εις Συρί-ας πραγματοποιούν της ART:NOM.PL armed-NOM.PL Syria-GEN.SG force-NOM.PL ART:GEN.SG accomplish-PRS.3.PL σήμερα επιχειρήσ-εις με στην μεγαλύτερ-η τανκ-ς today operation-ACC.PL with tank-ACC.PL in.ART:ACC.SG largest:ACC.SG Ντέιρ αλ Ζουρ πόλ-η ανατολικά χώρ-ας, της στη city-ACC.SG in the east ART:GEN.SG country-GEN.SG in.ART:ACC.SG Deir-al-Zour 'Today the armed forces of Syria make tank operations in the largest city in the

'Today the armed forces of Syria make tank operations in the largest city in the east of the country, in Deir al Zour' [2011.08.7 Ελευθεροτυπία]

I argue that these exceptional spatial terms can still govern the genitive case because of their relatively recent ability to function as adverbials. Terms for 'right/left' in Ancient Greek functioned as abstract nouns with a preposition, and changed their form depending on the governing preposition, whereas the adverbs were extremely infrequent. Cardinal direction terms have a transparent etymology and were expressed by nouns; adverbial syntax comes into play only in Katharevousa Greek. Moreover, substantivized constructions, such as *sta ðeksia/anatolika+ gen* (in.ART:NOM.PL right/eastern.NOM.PL +gen 'in the right/east of'), are widely attested in Modern Greek texts. Thus, these items in genitive constructions can be analyzed within the framework of mixed categories: in contrast to other conventional adverbs, they have nominal internal syntax. Whereas their external syntax is totally adverbial (for instance, they modify verb

phrases and do not take adjectival modifiers), their internal syntax is a remnant of the earlier nominal syntax, assigning the genitive case to the arguments).

Cross-linguistically, spatial adverbs and adpositions often have nominal sources with the meaning of body parts and environmental landmarks [Heine, Kuteva 2007: 63-65; see also Brown 1983; Heine, Kuteva 2002; Svorou 1994], and they can also demonstrate mixed syntactic behavior [Nikitina 2008: 141-146]. During the process of grammaticalization and change from nominal to adverbial morphosyntax, the old and the new structure can be used in parallel [Heine 1991: 222-224; Sonnenschein 2004: 131].

Morphosyntactic consequences of grammaticalization of 'right'/'left' and cardinal directions terms, however, still remain unexplored; for example, they are not addressed in the extensive typological study on the grammaticalization of spatial terms [Svorou 1984]. The Greek data show that this problem deserves further study, since 'right'/'left' and cardinal direction adverbs can differ significantly from other spatial expressions in terms of their morphosyntax.

#### 6. Conclusions

The papers included in the dissertation represent the results of the research of peripheral spatial terms 'right/left' and cardinal directions throughout the history of the Greek language.

Section 2 is devoted to the semantic development of cardinal directions terms in Ancient Greek, their lexical sources and morphosyntactic changes; it was shown that the meaning of the term and the ability to interpret it literally as a concrete landmark may influence the morphosyntax. Apart from that, I formulated a hypothesis that conventional morphosyntactic strategies of marking location in terms of cardinal directions can be related to the prevalence of hodological spatial narrative in Ancient Greek texts.

Section 3 represents a description and analysis of the strategies of encoding 'right/left' spatial relations in a diglossic situation, namely in Katharevousa Greek (the official language of Greece in XIX-XX centuries). The strategies are shown to be unique for this register; they are only partially based on Ancient or Modern Greek.

Here we may observe the mechanism of archaization of the colloquial language; this phenomenon is quite expected for a hybrid written, but non-codified register. To test this hypothesis, one should perform research not only on the basis of spatial terms, but also analyze some core elements of the grammatical system (for example, the verbal morphology).

Section 4 comprises an overview of the approaches to the studies of spatial relations in diachrony; some studies on the encoding of spatial semantic roles, the interpretation of morphosyntactic changes and their formal description formed the methodological basis of my research.

Finally, section 5 represents the results of the study, revealing the morphosyntactic patterns of Modern Greek spatial adverbs in synchrony and explaining their diachronic development; the chain of grammaticalization of terms 'right/left' and cardinal directions was reconstructed on the basis of the available corpora of Ancient and Modern Greek. In the paper I put forward an explanation for such unusual morphosyntactic behavior of low-frequent spatial adverbs and suggest a mixed category syntactic analysis.

The results of the present study represent a detailed description of diachronic semantics and morphosyntactic change in the domain of Greek peripheral spatial terms in a typological perspective; I also managed to reveal some linguistic and extralinguistic factors influencing the choice of the encoding strategy. The diachronic approach to the domain of peripheral spatial relations also gave me an opportunity to formulate some lacunas and research questions for further studies.

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