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PROCEEDINGS OF THE ICGL12 IIPAKTIKA TOY ICGL12

Thanasis Georgakopoulos, Theodossia-Soula Pavlidou, Miltos Pechlivanos, Artemis Alexiadou, Jannis Androutsopoulos, Alexis Kalokairinos, Stavros Skopeteas, Katerina Stathi (Eds.)

PROCEEDINGS OF THE 12TH INTERNATIONAL CONFERENCE ON GREEK LINGUISTICS

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ΣΗΜΕΙΩΜΑ ΕΚΔΟΤΩΝ

Το 12ο Διεθνές Συνέδριο Ελληνικής Γλωσσολογίας (International Conference on Greek Linguistics/ICGL12) πραγματοποιήθηκε στο Κέντρο Νέου Ελληνισμού του Ελεύθερου Πανεπιστημίου του Βερολίνου (Centrum Modernes Griechenland, Freie Universität Berlin) στις 16-19 Σεπτεμβρίου 2015 με τη συμμετοχή περίπου τετρακοσίων συνέδρων απ' όλον τον κόσμο.

Την Επιστημονική Επιτροπή του ICGL12 στελέχωσαν οι Θανάσης Γεωργακόπουλος, Θεοδοσία-Σούλα Παυλίδου, Μίλτος Πεχλιβάνος, Άρτεμις Αλεξιάδου, Δώρα Αλεξοπούλου, Γιάννης Ανδρουτσόπουλος, Αμαλία Αρβανίτη, Σταύρος Ασημακόπουλος, Αλεξάνδρα Γεωργακοπούλου, Κλεάνθης Γκρώμαν, Σαβίνα Ιατρίδου, Mark Janse, Brian Joseph, Αλέξης Καλοκαιρινός, Ναπολέων Κάτσος, Ευαγγελία Κορδώνη, Αμαλία Μόζερ, Ελένη Μπουτουλούση, Κική Νικηφορίδου, Αγγελική Ράλλη, Άννα Ρούσσου, Αθηνά Σιούπη, Σταύρος Σκοπετέας, Κατερίνα Στάθη, Μελίτα Σταύρου, Αρχόντω Τερζή, Νίνα Τοπιντζή, Ιάνθη Τσιμπλή και Σταυρούλα Τσιπλάκου.

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Παρότι στο συνέδριο οι ανακοινώσεις είχαν ταξινομηθεί σύμφωνα με θεματικούς άξονες, τα κείμενα των ανακοινώσεων παρατίθενται σε αλφαβητική σειρά, σύμφωνα με το λατινικό αλφάβητο· εξαίρεση αποτελούν οι εναρκτήριες ομιλίες, οι οποίες βρίσκονται στην αρχή του πρώτου τόμου.

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SPATIAL PREPOSITIONS IN EARLY CHILD GREEK: IMPLICATIONS FOR ACQUISITION, POLYSEMY AND HISTORICAL CHANGE

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Περίληψη

Η ανάπτυξη των τοπικών προθέσεων «σε» και «από» καταγράφεται με διάφορα κριτήρια στις συνομιλίες ενός παιδιού ηλικίας 1;8 έως 4;0 ετών. Υποστηρίζουμε ότι η ανάδυση όλο και πιο περίπλοκων γραμματικών δομών ενισχύει κονστρουκτιβιστικές θεωρίες της κατάκτησης, καθώς και ότι η πιο συχνή και πρώιμη αναφορά στον προορισμό μιας μετακινούμενης οντότητας ενισχύει την ιδέα ότι αυτή είναι πιο προσιτή γνωσιακά από την αναφορά στην αφετηρία της. Τέλος, ερμηνεύουμε τόσο την ανάπτυξη όσο και την πολυσημία των προθέσεων σε συνάρτηση με συγκεκριμένα συντακτικο-σημασιολογικά και λεξικά πλαίσια (constructions) και διατυπώνουμε υποθέσεις για τις σχέσεις των σημασιών που υποδηλώνουν οι προθέσεις και την εξέλιξή τους.

Keywords: source, goal, spatial prepositions, language acquisition, Greek, polysemy

1. Introduction

Modern Greek (MG) has two basic spatial prepositions *se* and *apo*, which serve according to previous descriptions the following functions (see e.g. Tachibana 1994, Skopeteas 1999, Bortone 2010, Zafeiriadou 2010). *Se* serves as an allative and a locative, i.e. marking the goal or end-state of motion as well as static position of entities. *Apo* seems more complicated, though traditionally associated with the ablative or source of

motion. Quite characteristically, Skopeteas (1999) speaks of a polysemy with a more complex structure than *se*; Zafeiriadou (2010) mentions 42 meanings (including abstract ones), but sees dislocation implicated in all of them. Skopeteas stresses nonetheless the extension of *apo* to a locative function, but insists upon a subtle yet critical difference from *se*: *apo* codes relations among distant entities in a space construed as infinite, while *se* construes space as composed of finite areas and locates entities relative to them.

In this paper, we focus upon spatial uses of the prepositions, though their boundaries from abstract ones are fuzzy as widely acknowledged (see e.g. Rice 2003). By studying spontaneous child-adult conversations at an early age, we aim, for one, at enriching previous findings on the acquisition of spatial prepositions above all in Greek (see Alexaki, Kambanaros & Terzi, 2009 for experimental and conversation production data, but also Terzi & Tsakali 2009 as well as Terzi, Tsakali & Zafeiri 2015 for experimental data on production and comprehension). In fact, spontaneous conversations have been less exploited than experimental data in research on the acquisition of spatial language (see nonetheless Sinha, Thorseng, Hayashi & Plunkett 1994 on English, Danish and Japanese, Morgenstern & Sakali 2009 on English and French). We further aim at exploring how data from the most natural type of discourse can contribute to the synchronic description of these prepositions, including their polysemy, and perhaps also offer insights as to how this polysemy has evolved (also see Morgenstern & Sakali 2009 for a similar attempt).

2. Method and data analyses

We analyzed 60 hours of one child's conversations from 1;8 to 4;0 years, subdivided into three age spans: 1;8-2;5, 2;6-3;2 and 3;3-4;0. More particularly, we described constructions requiring the two spatial prepositions in terms of their frequency, time of appearance, forms and meanings.

3. Results

Overall, 2344 constructions required the two prepositions: 1923 *se* and 421 *apo*. However, originally the prepositions are often missing (also see Alexaki et al. 2009), though

se much more frequently at 35% of obligatory contexts relative to only 6% for apo (examples 1 and 2).

```
(1) [1;8 yrs]
```

```
(σ)το
          μπανάκι
                          του
                                 πάει
(to)the
          bathtub-dim
                          his
                                 go-3sg.prs
```

'He is going to his bathtub.'

```
(2) [1;11 yrs]
```

```
από
        κάτω
                (από)
                                κα(τ)σαρόλα
                          την
from
        under
                (from)
                          the
                                Pot
```

'Underneath the pot.'

Moreover, omission occurs mainly before 2;6 years (90% of cases for se and 18.4% for apo), but becomes quite restricted after 3;3 years to 1.5% of cases for se and 2.8% for apo. Each preposition seems, however, omitted for different reasons.

Se seems primarily omitted due to phonological reasons (also see Alexaki et al. 2009), as it is overwhelmingly required in our data in contractions with the definite article involving the st- cluster. Though difficulties with consonantal clusters are typical at this early age, the st- contraction is rarely produced even at 1;9 years. However, se also seems semantically redundant when it follows a motion verb with an inherent goal; early constructions typically involve the verb pigheno 'go'. The spatial relation of goal is thought to be part of the verb frame and a pivotal semantic role within the event (thus also explaining the conventionalization of adult expressions without se such as pame platia, see e.g Gehrket & Lekakou 2013 though they suppose a different reason for this). Apo's omission does not seem phonologically motivated, since it is produced from 1;9 years (example 3).

```
(3) [1;9 yrs]
```

(ε)δώ από

from here

'[I am coming] from over here.'

This involves, however, constructions with a deictic adverb (example 3), while omissions begin at 1;11 years when more complex constructions appear, i.e. those with a non-deictic adverb (example 2 earlier) or a noun phrase (NP) (example 4).

(4) [1;10 yrs]

```
μπαμπά \beta(\gamma)ήκες (από) το μπάνιο? dad exit-2s.past (from) the bathroom
```

Apo may also be redundant semantically but only when signaling source and even more when this notion is lexicalized in the verb as in (4) above. The fact that Alexaki et al. (2009) did not report missing *apo*'s in conversations may be an artifact of their limited data, which seems to have moreover consisted largely of deictic adverb constructions (indeed the earliest and most frequent in our data as well as we will show).

Constructions requiring *se* are more frequent than those requiring αpo and also flourish earlier. *Se* ones appear from 1;8 years with the first non-deviant cases at 1;9 when *apo* first appears. Moreover, the former are 4.6 times more frequent overall, in fact 5.8 times before 2;6 years dropping to 3.5 times in the more advanced age span.

In addition, both types of construction are originally simple with more complex ones added only gradually. It suffices to note two developments along this line. For one, simple prepositional phrases (PPs) are notably more frequent (at 87% of the total) than complex ones containing an adverb. The latter also flourish later, as simple PPs are 11.1 times more frequent before 2;6 years but only 5.4 times after 3;3 years. In addition, early utterances often do not even include a verb (example 3 earlier). Moreover, while complex PPs are first attempted at 1;11, they include a preposition only at 2;2 years.

We now turn to the structure and meaning of constructions. *Se* ones are overwhelmingly simple PPs (88%) functioning largely as allatives (example 1 earlier), while complex PPs function mostly as locatives (example 5).

(5) [3;4 yrs]

πάνω στα άλογα over/on top at-the horses

'[They are] on top of the horses.'

^{&#}x27;Dad did you get out of the bathroom?'

Overall, allatives comprise 69% of the total and appear one month earlier than locatives.

Apo constructions are of a wider variety and thus deserve special attention. They appear in three generic structures: *apo* + adverb, *apo* + NP, adverb + *apo* + NP, but also subtypes such as deictic and non-deictic adverb, complex and simple NP. In addition, they code five meanings, which we call after Jackendoff (1983) location (6) as well as source (3 and 4 earlier), direction (7), route (8), and goal (9) of dislocation.

(6) [2;4 yrs]

από $(\varepsilon)\delta\omega$ έχει πολύ κόσμο from have-3sg.prs here much people

'There's lots of people over here.'

(7) [2;1 yrs]

από (ε)δώ θα πάμε κουτί το from here will go/take-1pl.nonpast the box

'We are taking the box this way.'

(8) [2;11 yrs]

περνάει απ(ό) αυτόν δρόμο? το pass-3sg.prs from this the street?

'Does it pass through this street?'

(9) [2;4 yrs]

από (ε)δώ ĸι από (ε)εκεί βάλω να το from here and from there put-1sg.nonpast to it

'Should I put it over here and over there?'

The difference of the above meanings, including subvarieties of source, emerges clearly in their glosses into English as "from", "off", "out of", "by", "over", "through", "on/at". However, it is at times quite elusive, because it is totally dependent upon contextual information. This includes the overall construction, in fact elements often beyond the verb (which suffices instead for differentiating the meanings of se but only in a few cases the source meaning of apo), but also the pragmatic context. But elusiveness also stems from the greater resemblance of some meanings over others, above all direction (or movement towards somewhere) and goal, while source and goal differ sharply.

By far the most frequent apo construction is the deictic adverb one at 50.4%, with simple PPs at 28.2%, complex PPs at 11.2%, and other types restricted. In terms of meaning, source notably predominates at 43%, followed by location at 27%, direction at 19%, goal at 9% and route at 2%. Moreover, each structure is more strongly associated with particular meanings in terms of frequency but also developmental precedence.

Figure 1 shows frequencies of meanings for each structure. Non-deictic adverbs – whether complex PPs or simpler apo + adverb phrases - make the overall construction relatively static - locative primarily but also allative to a lesser extent (i.e. marking the related notion of goal/end-state). On the other hand, structures with deictic adverbs or NPs in simple PPs are more associated with dislocation - as high as 81% in the latter case. Moreover, structures more associated with location are the least versatile, signaling almost exclusively location and goal. By contrast, structures more

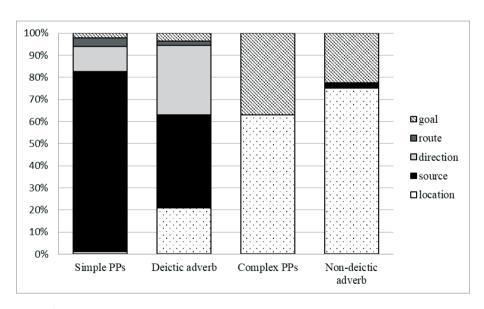


Figure 1 | Range and frequency of meanings for "apo" structures

associated with dislocation signal all possible meanings, but the most versatile are the deictic adverb ones.

Developmentally, deictic adverb constructions are the earliest, as already noted, but also by far more frequent at half of the total, interestingly across age spans including the adult speech (for which we report no other analyses here). Moreover, they first signal primarily source followed by direction, while other meanings emerge later. Two months later, at 1;11 years, the more complex constructions of non-deictic adverbs and simple PPs emerge. The former signal at first only location, though later also the related meaning of goal. Finally, at 1;11 years we find the first slightly abstract uses of *apo*, which flourish however only after 2;5 years and take up 11% of the total. We analyzed them because they still code space and not abstract notions like cause and time. Interestingly, they all code source, the seemingly prototypical meaning of *apo*, but of a physically non-literal dislocation, mostly perceptual scanning of a scene as in (10)

(10) [3;8 yrs]

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και βλέπανε έξω από το παράθυρο and see-3pl.impf out from the window
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'And they were looking out of the window.'

Of course a more detailed description of the *apo* and *se* construction types must take into account additional elements, above all their predicates. As noted earlier, early constructions tend to be simple, with the verb implied contextually. However, the particular construction types noted above seem to involve more often and earlier in development particular verbs, whether these are overtly coded or implied. For instance, non-deictic adverb *apo* constructions are originally mostly locative and involve the copula *ine* "be" or the existential *exi* "have", while simple PP ones originally signal source predominantly with the verb *fevgho* "leave".

4. Discussion and conclusion

We have reported preliminary results on the acquisition of the two basic spatial prepositions. As noted in the Introduction, *apo* both complements and overlaps with *se*, so a more comprehensive analysis of their uses, particularly of the occasionally subtle divi-

sion of semantic space between them requires more extensive analyses and data, including the child-directed speech in our corpus. Still, our findings allow some conclusions.

First, regarding acquisition we see them as supporting constructionist approaches, which claim gradual emergence of different and all the more complex constructions (e.g. Tomasello 2003). We found, for instance, gradual enrichment of originally very simple constructions lacking even a verb or a preposition, as well as earlier flourishing of simple over complex PPs (also see Alexaki et al. 2009). In addition, we noted early absence of prepositions as in other languages (see e.g. Rice 2003) but our detailed tracing of when it occurs has pinpointed more than one (even if converging) motivations, in fact partly different for each preposition. Moreover, se constructions are much more frequent than *apo* ones (even if *se* is originally often missing) and also flourish earlier. Source, more particularly, is first signaled at 1;10 years but goal from 1;8. In fact, talking about goals and locations, rather than sources, becomes even more frequent if we also take into account the notable 36% of apo also signaling the first two meanings. This reinforces the idea that it is more accessible cognitively to speak about end-states of dislocation and location, rather than source, direction and route of dislocation. Previous research has repeatedly pointed to the primacy of goal over source (e.g. Lakusta & Landau 2005, Papafragou 2010, Rice 2003 in child conversations), including the greater frequency of goal markers cross-linguistically (e.g. Stefanowitsch & Rohde 2004).

In addition, our findings support previous synchronic descriptions of the two prepositions but also allow us to fine-tune them. Se serves indeed its two traditionally recognized functions, but we found the allative far more frequently and slightly earlier than the locative. Apo appears, however, in a variety of constructions, which in \% of cases include the meaning component of dislocation. Of all these meanings, source is far more predominant, thus confirming the traditional association of apo with the ablative. In fact, it seems no accident that its slightly abstract uses exploit this particular meaning. Direction is the next most frequent dislocation meaning, with goal being less frequent and route relatively marginal. But it is quite interesting that the second most frequent function of *apo* is the locative.

Our data further highlight the central status of the apo + deictic adverb pattern in terms of its being the earliest, most frequent and versatile in interpretation. In fact, the restricted choice of deictic adverbs ((e)dho 'here' or (e)ki 'there') practically renders this pattern a lexically-filled construction that may well be an undifferentiated whole. Taken together, these findings indicate that this pattern is a highly entrenched instance of the more general apo + adverb construction, which may well be stored independently of the general pattern and in addition to it; as Goldberg (2006: 5) notes, if a linguistic form is used often enough, it becomes entrenched in speakers' minds and can be viewed as a construction, even when its formal and functional properties are fully predictable. This particular lexically-filled construction appears then to hold a pivotal role across ages, in a way not recognized in previous descriptions.

In line with recent (in fact corpus-based) work on polysemy (e.g. Gries 2006, Hilpert 2008, 2016, Berez & Gries 2009, Croft 2009), the acquisition data have also shown that the meanings of apo more particularly cannot be determined independently of the syntactic, semantic and pragmatic environment and are best seen as embedded in localized constructions that provide the motivating context for the extensions. The realization that polysemy correlates with particular syntactic environments and in some cases with specific lexical collocates of a given word has been steadily growing in the cognitive linguistic literature and has shifted the focus "from words as building blocks to usage events, in all their contextual detail" (cf. Cuyckens, Dirven & Taylor 2003: 21). The point is that context (in our case, minimally including the syntactic and semantic features of the prepositional complement as well as specific lexical choices) systematically favors particular meanings and interpretations to an extent that focusing exclusively on de-contextualized semantic nodes or niches seems simplistic. Figure 1 is indeed a first attempt at acknowledging the interaction of these parameters and contributing to a more accurate approach to the polysemy of *apo*. The realization that syntactic context (at least) correlates with particular functions and meanings is naturally evident in the typological literature as well; for instance, semantic maps are widely acknowledged as a robust method for representing the meanings of a "gram" (grammatical morpheme) as "a coherent chunk of a universal network" (Haspelmath 2003: 214), with obvious implications for synchronic polysemy, diachronic development and cross-linguistic comparison (also Croft 2001). But as Haspelmath (2003: 219) further notes, the problem with the term semantic map is "that the functions we want to map are not necessarily differentiated only semantically ... so sometimes the syntactic context must also be taken into account".

The findings ascertain not only the polysemy of *apo* but also its quite complex and moreover peculiar structure, given meanings so diverse and also partly similar to those of *se*. Luraghi (2003) characterizes Ancient Greek *apo* a quite versatile preposition with a more general meaning than related prepositions like *ek*, further noting its marginal extension to a locative meaning as well. In Modern Greek, it seems even more versatile, as it seems to more systematically undertake a locative function above

all, but also an allative as well as directional ones. A conflation of source, on the one hand, with goal of motion and static location, on the other hand, has been deemed cognitively unnatural (see e.g. Ikegami 1987). Yet, it is attested cross-linguistically, even if less frequently (see e.g. Creissels 2006 for typological tendencies on this and MacKenzie 1978 for an extension of ablative markers to locative meaning). It has, however, been claimed that when markers do acquire such untypical polysemy, they lose their originally ablative meaning (e.g. Luraghi 2009). However, even if such a loss has begun in Greek, our data indicate that source remains the predominant meaning.

How can we explain such an untypical polysemy? One possible motivation derives from the general fact that versatile and highly polysemous prepositions have a very schematic meaning (cf. Langacker 2000), obtaining more specific senses only in particular syntactic, semantic and pragmatic contexts, which we have represented here as constructions. What can such a schematic meaning be for apo synchronically, that would be able to motivate the co-existence of typologically exclusive meanings? One indication may be provided by apo locatives, which resemble se ones truth-conditionally but at the same time impose a different construal (e.g. apo tin/s-tin ali meria 'on the other side'). In our data at least, we see apo as locating not only through construing space as infinite (as Skopeteas 1999 has noted), but also by evoking a "fictive motion" construal over the scene, more particularly between two distant entities. As introduced by Talmy (1996), the term refers to the metaphorical motion of an object through space and prototypically refers to cases where a motion verb applies to a subject not literally capable of physical movement. In the case of *apo*, we may speak of fictive dislocation in the sense that, as we noted, it invites a perceptual scanning of the scene towards a point construed as distinct from the location of the speaker. When a motion verb is actually involved (e.g. to evala dho vs. to evala apo dho 'I put it there'), the expression with *apo* evokes both the itinerary and the final destination. But even with non-motion predicates (e.g. example 6 earlier apo dho echi poli kosmo), apo implies that the speaker's location is distinct from the referent of the adverb, again inviting perceptual scanning. Such cases, therefore, may arguably involve a metaphoric extension of physical dislocation. In this sense, we agree with Zafeiriadou (2010) that dislocation is an overarching meaning component in all the distinct functions of apo, hence motivating its polysemy.

Yet, *apo* may also have become locative through another route, namely its constructional associations, and more particularly its combining with non-deictic adverbs. Historically, Greek came to specify spatial relations mostly through adverbs, as spatial

prepositions became restricted and moreover obtained a more general meaning relative to Ancient Greek (e.g. Tachibana 1993). A non-deictic adverb provides the overall construction with static connotations, because it highlights details of the end-state of motion or the position of entities (also see Skopeteas 1999 on this). However, even with non-deictic adverbs *apo* appears to implicate fictive dislocation, as it codes relations among non-contiguous entities.

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