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STATIC SPATIAL INFORMATION IN DESCRIPTIVE DISCOURSE IN GREEK: AGE AND LANGUAGE-SPECIFIC EFFECTS

The coding of static space is investigated in descriptive discourse produced by Greek-speaking 4-, 7- and 10-year-old children and adults. The prominence of this conceptual domain has been shown to vary depending, above all, upon the age of speakers and the type of language. In fact, typological differences have been assumed between space- and object-oriented languages. Prominence is traced developmentally via four parameters: frequency of utterances with locative concepts, treatment of such concepts as topics of the utterance and the discourse, finally their linkage across utterances via adverbs which can construe space as infinite areas rather than as object-bound places via nominals. Findings show prominence rising with age as expected. However, comparisons with corresponding findings on other languages in the discussion suggest relatively lower prominence in Greek. Preliminary explanations are attempted for this in terms of lexico-grammatical constraints, while suggest more complex than expected typological differences.

Keywords: static space, language acquisition, descriptive discourse, Greek, locatives

1. INTRODUCTION

The coding of a conceptual domain in speech has been shown to differ across languages, discourses and speakers, above all in the frequency and types of concepts also in their information status in the utterance and the discourse. More specifically, languages differ lexico-grammatically and, by extension according to some researchers, in the types of information they more easily code and how

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they preferably structure them within and across utterances (e.g. Carroll et al. 2000; Carroll & Stutterheim 1993, 1997). Moreover, different types of discourse respond to a different initializing question, thus highlighting different types of information and packaging them differently (e.g. Klein & Stutterheim 1991). Finally, speakers differ in terms of age (or cognitive, linguistic and discourse skills) also use of a first or a second language and thus in the concepts they code and the information status they ascribe to them (e.g. Hendriks & Watorek 2008, 2012; Hendriks, Watorek & Giuliano 2004; Watorek 2018).

The current paper focuses upon the domain of static space in descriptive discourse produced by speakers of Greek as a first language, children and adults. Such discourse has been assumed to respond to the key question ‘Where is what in the scene described?’, with entities and space being its core conceptual domains (e.g. Carroll & Stutterheim 1993). However, space is deemed more abstract because it involves relations between entities; it also serves as the topic of the discourse. Moreover, it has been found to be more or less prominent on the basis of various measures discussed below, depending, as noted above, on the type of speaker, language and discourse (e.g. Carroll et al. 2000). We trace such prominence in Greek with an eye to describing and explaining possible universal but also language-particular developmental trends. The latter becomes possible by discussing our findings via comparisons with previous findings on other languages, all of which are drawn on the basis of the same methodology.

Previous research has indeed pointed to universal paths and determinants in the acquisition of static spatial expressions in descriptive discourse. More particularly, growing cognitive, linguistic and discourse skills supposedly explain increases in the frequency, range and complexity of the concepts coded also in their functioning as the topic of the utterance and the discourse (e.g. Hendriks & Watorek 2008, 2012; Watorek 2004 for French English and Polish; Giuliano, D’Ambrosio & Greco 2003 for Italian). Above all, children originally talk largely about entities without locating them. When they later add information on their location, they postpone it to entities in utterances called presentational because they have entities as their topic (example 1). It is even later that spatial information comes to precede entities and thus serve as the topic of the utterance (example 2).

(1) *A lady at the bustop.*

(2) *At the bustop a lady.*

Interestingly, however, such universal developments have also been noted, in the above-mentioned studies, at a different pace and intensity across languages.

For instance, utterances with locative expressions increase notably only at 10 years in English but at 7 years in French and Polish. Moreover, such expressions come to notably precede entities from 7 years in Polish, French and Italian, but only from 10 years in English. In fact, such precedence remains more restricted in English even in adults at roughly half of cases, as against at least three quarters in the other three languages.

Research on adults alone has suggested further steps in development and additional cross-linguistic differences (e.g. Carroll & Stutterheim 1993 on English and German; Carroll et al. 2000 on German, English, Italian, Spanish and French; Watorek 2003 on French and Polish). Adults come to also present entities via utterances called locational, where the location is not only utterance-initial but also mentioned in a previous utterance (example 3).

(3) *Next to the pavement a bustop. At the bustop a lady.*

With locationals space is not only the topic of the utterance but also of the discourse, as it serves as the conceptual basis for cohesion of utterances. Cohesion requires, of course, discourse skills, which have been shown to essentially emerge only at 10 years in this demanding type of discourse (e.g. Watorek 2018). Interestingly, however, locationals are restricted in English and the Romance language (from 2,8% to 23% of utterances presenting entities), while being overwhelming in German at 78%. Moreover, cohesion is achieved largely via adverbs in German but nominals in English and the Romance languages (compare the nominal *at the bustop* in example 3 above with the adverbial *over there* in example 4).

(4) *Next to the pavement a bustop. Over there I see a lady.*

In such research, adverbs have been assumed to open the possibility of construing space more abstractly as infinite areas, while nominals (as complements of prepositions) always do so as delimited places of entities. The two types of construing have been termed object-neutral and object-bound.

Carroll et al. (2000) have, in fact, claimed a typological difference between languages favoring a space- vs. an object-oriented conceptual perspective, or what we may see as higher or lower prominence of space. They characterize German as space-oriented, but English and the Romance languages as object-oriented on the basis of the following findings: preference for locationals, adverbial cohesion and a global strategy of localizing entities within large sections of a poster (e.g. equivalent to *on the upper left side*) in German, as against presentationals, nominal cohesion and a linear point-by-point localization (e.g. equivalent to *next to the statue*) in the latter languages.

These typological differences have been ascribed to constraints imposed by lexico-grammatical features and their alignments (e.g. Carroll et al. 2000; Carroll & Stutterheim 1993, 1997). For instance, English is assumed to discourage locatives utterance-initially, favoring entities instead due to its Subject-Verb-Object word order, while its non-drop syntax favors prepositions rather than intransitive adverbs as locatives. By contrast, the syntax of German leaves the initial slot of the utterance free for locatives, while its lexicon includes a particular class of adverbs characterized as ‘true’ by Carroll and Stutterheim (1993) (e.g. *dahinter* ‘back there’) which always construe space as infinite areas. However, it is at the same time acknowledged that identifying lexico-grammatical constraints is a complicated task for at least two reasons. The effects of language structure vary across different types of discourse (e.g. Stutterheim & Carroll 2018). In addition, the lexico-grammar favors but does not enforce a particular conceptual perspective (e.g. Carroll et al. 2000). This is seen in two types of evidence: a) speakers of a second language stuck to the dominant information patterns of their first language, even with advanced knowledge of the structure of the second language, b) individual differences within the same language, e.g. speakers of German adopting in 5% of cases an object-oriented perspective.

2. AIMS AND METHOD

In our research we trace, as noted earlier, developmental changes on the prominence of space in descriptive monologues in Greek. However, in the discussion we also undertake a preliminary exploration and explanation of cross-linguistic similarities and differences.

More specifically, we analyzed descriptions of a poster depicting a town center, addressed to an interlocutor who cannot see it but must draw it. This complex verbal task requires awareness of the listener’s unusual communicative needs and their fulfilling via utterances linked into a text. Participants were 4, 7 and 10 years old as well as adults (10 per age group). These ages were chosen in studies mentioned above which adopted the same methodology, as they have been associated with different levels of linguistic, cognitive and discourse skills.

We analyzed the monologues on the basis of four parameters, suggested by previous research to reflect prominence of spatial information: 1) How often it is coded, as the proportion of utterances containing locatives. 2) How much it serves as the topic of the utterance by being preposed to entities. 3) How much it also serves as the topic of discourse, via locational utterances managing cohesion on the basis of space. 4) How often such cohesion is achieved via adverbs rather than nominals, thus possibly reflecting an object-neutral rather than object-bound construal of space.

3. RESULTS

Figure 1 shows the frequency of utterances with locative information rising from merely 10% and 18% at 4 and 7 years to a notable 46% at 10 years and 57% in adults.

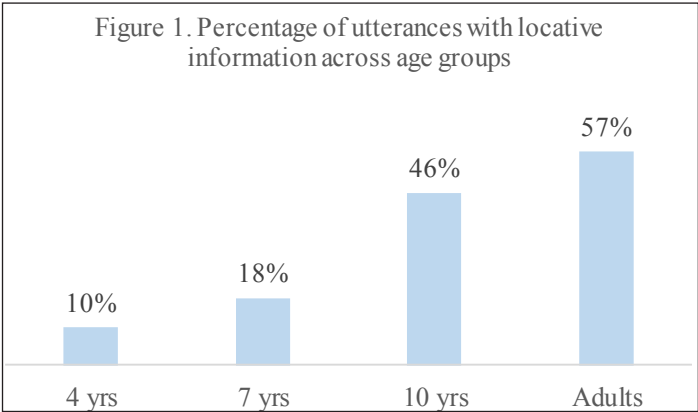
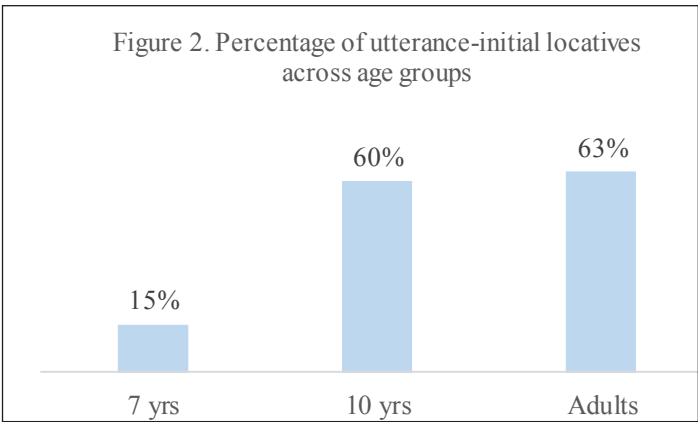


Figure 2 shows spatial information proposed to entities within utterances at merely 15% at 7 years, but strikingly rising to 60% at 10 years, where it moreover approximates the adults’ 63%. We bypass the findings on 4-year-olds, which seem unreliable for this and other purposes below, given very few locatives which are moreover often inappropriate deictics.

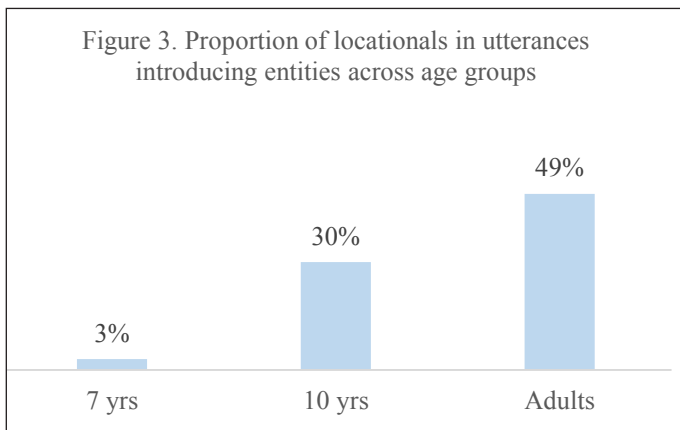


Focusing now upon locational utterances, Figure 3 shows them at merely 3% at 7 years, but rising notably to 30% at 10 years and even more to 49% in adults. Presentationals and locationals are exemplified in (5) and (6) respectively.

- (5) Έχει ένα περιπτεράκι ανάμεσα στα δύο κτίρια.
 has a kiosk-DIM between at-the two buildings
 'It's got a little kiosk between the two buildings.'

- (6) Μέσα στο δρόμο υπάρχει μία τρύπα. Και δίπλα
 in(side) at-the street exists a hole and next-to
 στην τρύπα υπάρχει μια κυρία με ποδήλατο.
 at-the hole exists a lady with bicycle

'In(side) the street there is a hole. And next to the hole there is a lady with a bicycle.'



Finally, spatial cohesion is predominantly accomplished via nominals ('next to the hole' in example 6 above). Adverbs make up only 22% of the total in adults, appearing earlier very marginally only at 10 years. In example (7), the object-bound construal 'a corner at a town' subsequently becomes object-neutral via the anaphoric adverb 'where'.

- (7) Μια γωνία σε μια πόλη, όπου υπάρχει ένα μικρό πάρκο
 a corner at a town where exists a small park
 'A corner at a town, where there is a small park.'

4. DISCUSSION

We now discuss our findings by also comparing them to corresponding ones on other languages, whenever feasible (see above all Hendriks & Watorek 2008, 2012 for children and Carroll et al. 2000 for adults).

To begin with, the amount of spatial information rises in Greek as in other languages, but somewhat later and less for the most part. It first becomes notable only at 10 years as in English, in contrast to 7 years in Polish and French. However, it remains lower than in all three languages just mentioned at 46% relative to roughly 60% at 10 years and 57% relative to 64-72% in adults. Although cross-linguistic differences can have various explanations, including being artifacts of small samples with individual differences, it is worth exploring possible lexico-grammatical constraints. Here, we can point to Greek grammaticalizing in a simple preposition only one locative concept, the vague ‘at place’ via *se* (‘at’), in contrast to various specific concepts in the other three languages (e.g. English *in*, *on* besides *at*). Grammaticalized concepts are widely seen as easier to code due to their simple form and schematic meaning, also frequent and, more importantly, as the driving force of attention (e.g. Stutterheim & Carroll 2018). We may thus assume that the ‘at place’ concept in Greek discourages focusing upon specific manners of localization or semantic granularity. In fact, as such manners are often contextually implicit (e.g. enclosure), this may have a spillover effect to localization more generally, as suggested in utterances corresponding e.g. to ‘a bench with a lady’.

Turning now to how much spatial information serves as the topic of the utterance, we found this increasing with age, as expected given previous findings. However, once again this becomes notable only at 10 years as in English, but later than in French, Italian and Polish where at 7 years it takes up half of cases. Moreover, the 63% of adults in Greek is higher than the 51% in English, but lower than the 77% to 91% in French, Italian, Spanish and German. What restraints utterance-initial locatives from further increasing in Greek, especially given its free word order? We suggest that answers can be sought in other aspects of its lexical and syntactic packaging of information, which altogether bring it closer to English though from different angles. For instance, entities and their attributes (in the widest sense which may include their location) are often presented via relative clauses, i.e. two utterances having entities as topics, while corresponding information is conflated into one utterance in English (see example 8 and its translation).

- (8) *Μάλλον κούκλες είναι αυτές, που είναι στις βιτρίνες.*
 rather dolls are these which are at-the shop-windows
 ‘These seem to be mannequins in the shop windows.’

While adult speakers of the Romance languages also favor relative clauses for similar information, they typically present entities via existential verbs preceded by locatives. Adult speakers of Greek do use such existential utterances (example

6 above), but also to a notable extent utterances with the copula (example 8) and the possessive 'have' (example 5) with postverbal besides preverbal locatives. The latter holds more with possessive utterances, whose topic is the poster construed as an entity possessing smaller entities. While English seems to resemble Greek on preference of verbs, its existential *there is* does not favor precedence of locatives.

Focusing now upon the level of discourse, we find space as its topic via locational utterances at merely 3% of cases at 7 years. This rises notably to 30% at 10 years and even further to 49% in adults, as expected along with development of discourse skills. But we also note cross-linguistic variation in adults (having no corresponding analyses on children). Greek lags behind the overwhelming use of locationals in space-oriented German, but notably surpasses their restricted use in the object-oriented languages, particularly the Romance ones (e.g. merely 2,8% in Italian). Restrictions on locationals assumed by Carroll et al. (2000) to hold in object-oriented languages do not seem to apply to Greek, such as the requirement of Spanish that they involve already introduced entities or that of English that location within places follows the located entity. Once again, we have no ready explanation as to why their use in Greek does not approach that of German, other than to assume other factors pushing Greek towards object-orientation, some of which we discuss below.

Finally, we found spatial cohesion predominantly via nominals, thus space construed as object-bound. The 22% involving adverbs clearly deviates from the 82% of German and resembles that of the object-oriented languages, strikingly in fact English and Italian. Cohesion via adverbs may not be favored in Greek as in the latter languages, above all because only two adverbs are explicitly anaphoric, i.e. *eki* ('there') and *pu* ('where'). While other types of adverbs notably increase and diversify from the age of 10, they code a spatial relation with an entity mentioned earlier (e.g. *mesa* 'inside' = *mesa sto periptero* 'inside the kiosk'), thus functioning as elliptical prepositions with object-bound construals of space.

The explicitly anaphoric adverbs do not suffice for making an object-neutral construal of space predominant not only because they are too few but also vague in meaning. Particularly *eki*, by far the more frequent, often has distant referents, retrievable only contextually occasionally via additional locatives. In example (9), *eki* in utterance 76 of the monologue refers to a bustop mentioned much earlier in utterance 34. This is clarified by the expression 'there, in front of the bustop that is', whose prepositional locative pushes towards an object-bound construal of space.

- (9) 34 Υπάρχει μια στάση για το τραμ δίπλα στο σιντριβάνι
exists a stop for the tram next-to at-the fountain
'There is a stop for the tram next to the fountain.' [...]
- 76 Εκεί μπροστά στη στάση δηλαδή υπάρχουν δύο
there in front of at-the stop that is exist-3PL two
αυτοκίνητα.
cars
'There, in front of the tram stop that is, there are two cars.'

It is less often that 'there' combines with adverbs locating via a visual trajectory, thus allowing an object-neutral construal. However, the most frequent such combination *eki pera* ('over there') remains vague in meaning, something avoided only with adverbs of more specific meaning (e.g. *eki piso* 'back there'). The latter combinations resemble the 'true' adverbs facilitating adverbial cohesion in German (e.g. *dahinter* 'there-behind'). But while *da* has grammaticalized into a prefix of the directional adverb in German, corresponding expressions in Greek are neither frequent nor monolexic.

5. CONCLUSIONS

In sum, we described the prominence of the conceptual domain of space in descriptive monologues in Greek on the basis of four parameters. Comparing our findings with those on other languages, we assume relatively lower prominence in Greek on two accounts: more restricted spatial information, also its construal as object-bound via nominal cohesion as in object-oriented languages. However, the significance of the other two parameters is not straightforward. While Greek lies somewhere between space-oriented and object-oriented languages on frequency of locationals, it exhibits less utterance-initial locatives than both types of languages with the exception of English. Finally, our findings do not corroborate Carroll et al.'s (2000) claim that preference for locationals aligns with adverbial cohesion, thus suggesting more complex typological differences.

Such findings call for a re-thinking of which parameters in which alignments indicate prominence of space. To this purpose, we find useful an impressionistic comparison of our data with that in English and French,³ as it suggests strong object-orientation in Greek. For instance, even adults ask the experimenters whether they should expand upon attributes of entities but never upon their location. Moreover, they do not typically undertake a global introduction to the poster (e.g. 'a square in a town'), which could promote spatial orientation via extralinguistic knowledge as typically holds in French. Characteristically, one speaker asks instead 'Where should I start? Let's start with the sidewalk...'. They

³ Kindly provided to us by H. Hendriks and M. Watorek.

also localize entities overwhelmingly point-by-point as in English (e.g. *and next to the statue*), in contrast to the global strategy predominating in German (e.g. *on the left side*). Finally, as noted earlier, they construe the poster as an entity possessing smaller entities rather than as an infinite space in whose areas entities can be located. From such points of view, Greek seems to resemble English more than French. This seems compatible with findings by Carroll et al. (2000) on intricate differences in speech patterns and structural features even among the object-oriented languages and strengthens the idea that typological differences are gradient.

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Ο ΣΤΑΤΙΚΟΣ ΧΩΡΟΣ ΣΕ ΠΕΡΙΓΡΑΦΙΚΑ ΚΕΙΜΕΝΑ ΣΤΑ ΕΛΛΗΝΙΚΑ:
ΕΠΙΔΡΑΣΕΙΣ ΤΗΣ ΗΛΙΚΙΑΣ ΚΑΙ ΤΗΣ ΓΛΩΣΣΙΚΗΣ ΔΟΜΗΣ

Περίληψη

Η κωδικοποίηση του στατικού χώρου μελετάται σε μονολόγους περιγραφής μιας εικόνας στα ελληνικά παιδιών ηλικίας 4, 7 και 10 ετών όπως και ενηλίκων. Καταγράφονται αναπτυξιακές αλλαγές στην προφάνεια του χώρου, με αφορμή ενδείξεις ότι μια εννοιακή περιοχή μπορεί να αναδεικνύεται περισσότερο ή λιγότερο ανάλογα με τα χαρακτηριστικά των ομιλούντων (πρωτίστως την ηλικία και συνεπώς τις γλωσσικές, γνωσιακές και κειμενικές τους ικανότητες), επίσης τη λεξικο-γραμματική των γλωσσών και το είδος του κειμένου. Στη βάση τέτοιων ενδείξεων έχει προταθεί και μια τυπολογική διαφορά μεταξύ γλωσσών προσανατολισμένων στην ανάδειξη του χώρου έναντι των οντοτήτων σε περιγραφικό λόγο. Η προφάνεια του χώρου μετρήθηκε με βάση τέσσερις παραμέτρους: συχνότητα εκφωνημάτων με τοποθέτηση οντοτήτων, εάν η τοποθέτηση προηγείται της οντότητας και λειτουργεί συνεπώς ως πληροφοριακό θέμα του εκφωνήματος, εάν παρατηρείται συνοχή εκφωνημάτων με βάση έννοιες χώρου ώστε να καθίστανται και θέμα του κειμένου, τέλος εάν η συνοχή πραγματοποιείται με επιρρήματα (π.χ. *εκεί πάνω*) που υποτίθεται ότι ενθαρρύνουν αφηρημένη σύλληψη του χώρου ως απεριόριστου ή, αντιθέτως, με ουσιαστικά σε προθετικές φράσεις (π.χ. *στη στάση*) που επιβάλλουν σύλληψή του ως οριοθετημένων τοποθεσιών. Τα ευρήματα έδειξαν αύξηση της προφάνειας του χώρου με την ηλικία σε όλες τις παραμέτρους, όπως και σε προγενέστερες έρευνες. Ωστόσο, η σύγκρισή τους με αντίστοιχα ευρήματα από άλλες γλώσσες στη συζήτηση υποδεικνύει χαμηλότερο βαθμό προφάνειας στα ελληνικά, ειδικότερα στη συχνότητα εννοιών χώρου και στη σύλληψή του ως τοποθεσιών μέσα από ουσιαστικά. Η σημασία όμως των άλλων δύο παραμέτρων είναι ασαφής. Επιχειρούνται εξηγήσεις για τις διαγλωσσικές διαφορές με βάση λεξικο-γραμματικές ιδιαιτερότητες (π.χ. κυριαρχία της πολύ γενικής σημασιακά πρόθεσης χώρου *σε* στα ελληνικά έναντι πιο εξειδικευμένων προθέσεων στις άλλες γλώσσες). Αν και τα ελληνικά φαίνεται να προσιδιάζουν σε γλώσσες προσανατολισμένες στην ανάδειξη οντοτήτων, προσεγγίζουν περισσότερο τα αγγλικά παρά τα γαλλικά. Ενισχύεται έτσι η υπόθεση ότι οι τυπολογικές διαφορές είναι διαβαθμισμένες και όχι απόλυτες.

Λέξεις-κλειδιά: στατικός χώρος, γλωσσική κατάκτηση, περιγραφικός λόγος, ελληνικά, εκφράσεις τόπου