Referential Properties of Dropped Subjects and Pronouns in Greek

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Focusing (salience)

- **Structural focusing**

  (*Grosz, Joshi & Weinstein, 1983/1995)*

  - **Centering: theory of local focus relating discourse structure, discourse coherence and choice of referring expression.**

    (1) John helped George wash the car.

    (2) He washed the windows and George waxed the car.

    (3) He soaped a pane/#He buffed the hood

- **Semantic/pragmatic focusing**

  (Stevenson et al, 1994/2000)

  - **Verbs and connectives have focusing properties**

    (4) John criticized Bill because he failed to correct his faults

Pronouns in complex sentences

- **Structural focusing/Centering**
  - **Tensed Adjunct clauses are independent processing units, just like main clauses *(Kameyama, 1998)***
- **Semantic/pragmatic focusing**
  - **Same: no explicit distinction between main and adjunct clauses**

The Greek pronominal system

- **Weak pronominals**
  - **null subjects**
  - **clitics: τον/την/το, του/της/του**

- **Strong pronominals**
  - **αυτός-ή-ό**
  - **εκείνος-η-ο**

Focusing in Greek

- **Previous work**
  - **Subjects are more salient than objects**

    (Miltsakaki, 1999/2001)
  - **Strong pronouns are used to refer to a less salient entity**

    (Dimitriadis, 1996)

Experiment

Main-subordinate

1 (α) Η μητέρα έπλυνε την κόρη επιμελώς γιατί 0 είχε κοπεί με σκουριασμένο σύρμα.

(β) Η μητέρα έπλυνε την κόρη επιμελώς γιατί εκείνη είχε κοπεί με σκουριασμένο σύρμα.

Main-main

2 (α) Ο δολοφόνος έδεσε τον επιθεωρητή απρόσεκτα. Επειτα, 0 κατάφερε να ξελυθεί και να τον εντοπίσει σε λιγότερο από μισή ώρα.

(β) Ο δολοφόνος έδεσε τον επιιθεωρητή απρόσεκτα. Επειτα, εκείνος κατάφερε να ξελυθεί και να τον εντοπίσει σε λιγότερο από μισή ώρα.

Design

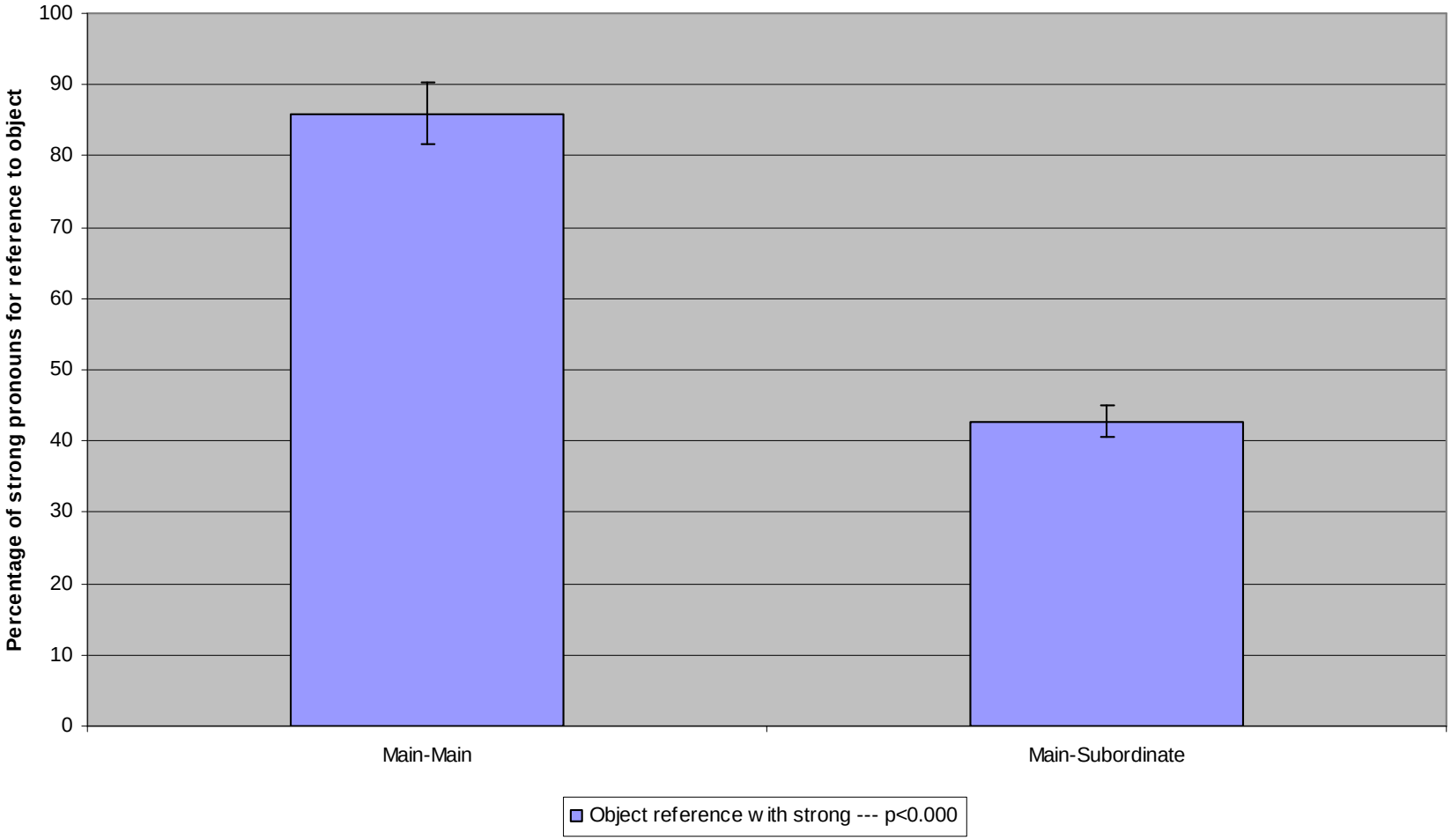
- **Material**
  - 120 pairs of sentences
  - 30 critical items - 90 distractors
  - Participants were asked to mark the most *natural* version
- **10 connectives:**
  - Main-subordinate condition
    - ενώ, όταν, γιατί, αν και, έτσι ώστε
  - Main-main condition
    - έπειτα, όμως, έτσι, επιπλέον, τελεία
- **Participants**
  - 20 adult native speakers of Greek (ILSP, UPenn)

Predictions

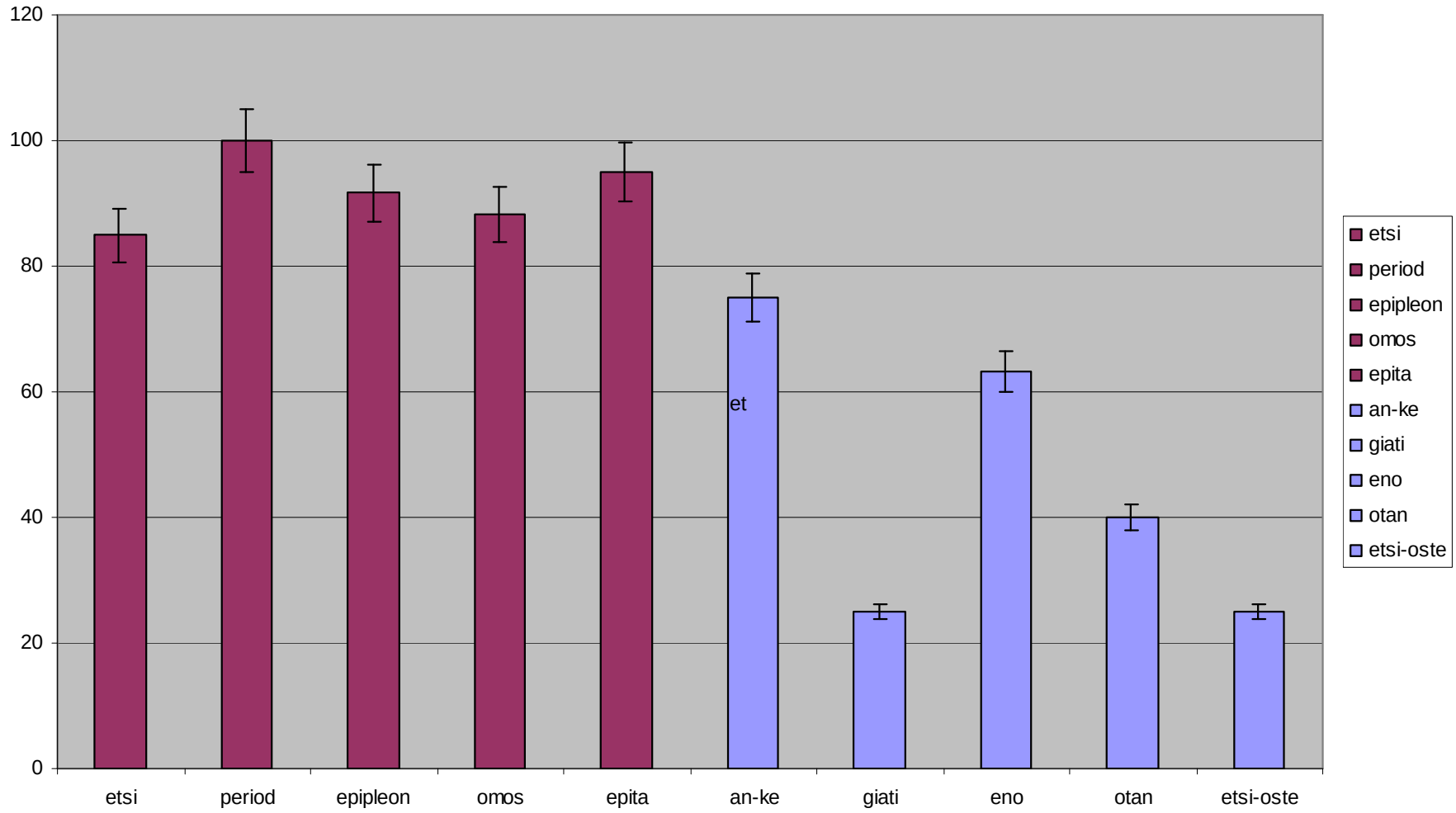
- **Preference for strong pronouns to refer to the object of the previous clause will be more consistent in the main-main condition**

- **In the main-subordinate condition preference for strong pronouns will vary, possibly depending on semantic or pragmatic focusing properties of the connective**

Percentage of ‘strong’ for reference to object



Percentage of ‘strong’ for object reference (per connective)



Conclusions from experiment

- **Pronominal interpretation in main clauses is predominantly driven by structural properties of focusing.**

- **Structural focusing is more likely to be overridden by other (semantic) focusing factors in subordinate clauses.**

Corpus study

- **Corpus: 800,000 wds *(Ελευθεροτυπία/Βήμα)***
- **Selection conditions:**
  - **Sequences of main-main (88) and main-subordinate (108) clauses (*όταν, γιατί, έτσι ώστε)***
  - **2nd clause contains third person dropped subject or weak pronoun**
  - **1st clause contains at least two competing (morphologically ambiguous) antecedents**

Some definitions

- **Salience ranking for Greek**
  - **Subject>Ind. Object>Object>other**
- **Ap (Preferred antecedent)**
  - **Highest ranked antecedent with compatible morphological features (number, gender)**
- **Anp (Non-preferred antecedent)**
  - **Non-highest ranked antecedent with compatible morphological features (number, gender)**

Coding example

1 (α) Για μια σειρά πράξεων <Ap>ο ΠΑΟΚ </Ap> καλεί <Anp>τον Πίκουλιν Ορτιθ</Anp> να απολογηθεί

(β) γιατί <R=Anp>0</R>έχει προκαλέσει μέγιστη αγωνιστική και ηθική ζημιά

2 (α) <Ap> Οι αισιόδοξοι</Ap> πιστεύουν ότι έχουν δημιουργηθεί <Anp> οι οικονομικές ηγεσίες </Anp> που μπορούν να αντιπαρατεθούν στην κατεστημένη εξουσία

(β) <R=Ap> 0 </R> Πιστεύουν ότι ο αγώνας τους δεν έχει ακριβώς κερδιθεί αλλά...

Hypothesis

- Anaphoric elements in main clauses will most consistently resolve to the Preferred Antecedent (Ap)
- Anaphoric elements in subordinate clauses will less consistently resolve to the Preferred Antecedent (Ap)

Corpus results

Reference in main and subordinate clauses

	Preferred Ant.	Non-preferred Ant.
Main-main	**92% (81)**	**0.07% (7)**
Main-subordinate	**51% (55)**	**49% (53)**

Chi-square: $p<0.0005$

Conclusions from corpus study

- **Null subjects and weak pronouns in main clauses refer to the structurally most salient antecedent in the previous discourse unit**

- **On the interpretation of null subjects and weak pronouns, structural focusing is overridden by other salience factors.**

General conclusions

- **The interpretation of weak pronouns in Greek is determined by both structural and semantic factors:**
  - **Structural factors are (cognitively) prominent when the weak pronoun appears inter-sententially**
  - **Semantics factors are (cognitively) prominent when the weak pronoun appears intra-sententially**
- **Complex sentences behave as single discourse units: subordinate clauses do not form independent update units for managing salience in discourse**

Future work

- Repeat experiments with different types of verbs
- Analyse each connective
- Investigate the effect of prior focusing established in previous discourse
- Study discourse function and interpretation of subordinate clauses