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 έχει κοπέα με σκουριασμένο σύρμα.
(β) Η μητέρα έπλυνε την κόρη επιμελώς γιατί εκείνη έχει κοπέα με σκουριασμένο σύρμα.

Main-main

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

Object reference with strong --- p<0.000
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)
1 (α) Για μια σειρά πράξεων όπως ο ΠΑΟΚ καλεί τον Πίκουλιν Ορτιθ να απολογηθεί (β) γιατί έχει προκαλέσει μέγιστη αγωνιστική και ηθική ζημιά

2 (α) Οι αισιόδοξοι πιστεύουν ότι έχουν δημιουργήσει οι οικονομικές ηγεσίες που μπορούν να αντιπαρατεθούν στην κατεστημένη εξουσία (β) Πιστεύουν ότι ο αγώνας τους δεν έχει ακριβώς κερδισθεί 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*

<table>
<thead>
<tr>
<th></th>
<th>Preferred Ant.</th>
<th>Non-preferred Ant.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main-main</td>
<td>92% (81)</td>
<td>0.07% (7)</td>
</tr>
<tr>
<td>Main-subordinate</td>
<td>51% (55)</td>
<td>49% (53)</td>
</tr>
</tbody>
</table>

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