Outline

- Asymmetries in Attachment Preferences (Cuetos and Mitchell 1988 and related work)
- Tacit assumption about ‘that’:
  - \( \text{That} = \text{que} = \text{che} = \text{die} \ldots \)
- Pseudorelatives (PRs), not all ‘that’ are equal
- Main Claim: Attachment Preferences modulated by availability of PRs
- Interlude: PRs in EP
- Looking back (explaining previous results)
- Looking ahead (some predictions and ongoing experimental work)
Attachment Preferences
Crosslinguistically

• **Cuetos and Mitchell 1988:**
  
  1. a. Someone shot the maid\(_1\) of the actress\(_2\) that \(EC\(_2\)\) was standing on the balcony
  
  b. Alguien disparó a la criada\(_1\) de la actriz\(_2\) que \(EC\(_1\)\) estaba en el balcón

• **English speakers:** Low Attachment preference, NP2;

• **Spanish speakers:** High Attachment preference, NP1.
Problems for a universal theory of parsing

- These findings questioned universality of parsing principles, in particular of *Late Closure* (Frazier 1978); *Right association* (Kimball 1973); *Recency Preference* (Gibson 1991); *Merge Right* (Phillips 1996).

- They are at odd with uniform low attachment preference found for other structures in the same languages (e.g. with PP attachment). i.e. strength of local attachment (Phillips and Gibson 1997)
Several factors influence attachment

• Prosody (Fodor 1998 and much related work)
  – Length of RC
  – Lengthening of tonic syllable in NP2, see e.g. Lourenço-Gomes 2003; Lourenço-Gomes & Moraes 2005
  – Duration of prosodic breaks
Syntactic Factors

• Spanish behave like English in:
  – Nominal contexts (Gibson et al. 1996)
  – Subject modifying RC (Hemforth et al. 2002β)
  – NP with NP (De Vincenzi and Job 1995)
  – Cual (which) vs. que (that)
  – Among many other factors
+20 years of literature

- Cuetos and Mitchell 1988,
- Mitchell and Cuetos 1991,
- Brysbaert and Mitchell 1994, 1996;
- Carreiras and Clifton 1993, 1999;
- DeVincenzi & Job 1993, 1995;
- Gilboy et al 1996;
- Gibson et al 1996a,b;
- Phillips and Gibson 1996;
- Hemforth et al. 2000;
- Konieczny et al 1996;
- Miyamoto 1999, 2005
- Maia

- Fodor 1998, 2000;
- Fernandez 2003, 2007;
- Lourenço-Gomes 2003;
- Lourenço-Gomes & Moraes 2005;
- Maia, Fernandez, Costa, Gomes 2007, 2008;
- Costa et al 2006;
- Augurzky 2006
- Desmet et al. 2006;
- Lovric 2003

among many many many many others;
Implicit Assumption

• English *that* = Spanish *que* = Italian *che* = Dutch *die* etc.

• Assuming identity puts **all burden for variation on parsing**
BUT!

• The implicit assumption is wrong:

• English *that* $\neq$ Spanish *que*, Italian *che*, Dutch *die* etc.
That vs. *que*

- \( V \text{ NP1 P NP2 } \text{that} \ldots \)
- \( V \text{ NP1 P NP2 } \text{that} \ldots \)
- \( V \text{ NP1 P NP2 } \text{que} \ldots \)
- \( V \text{ NP1 P NP2 } \text{que} \ldots \)
- \( V \text{ NP1 P NP2 } \text{que} \ldots \)
Some asymmetries btw “that”

<table>
<thead>
<tr>
<th>C</th>
<th>Restrictive RCs</th>
<th>Declaratives</th>
<th>Pseudo Relatives</th>
<th>Adverbials</th>
</tr>
</thead>
<tbody>
<tr>
<td>that</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>que&lt;sub&gt;PT&lt;/sub&gt;</td>
<td>✓</td>
<td>✓</td>
<td>LIMITED</td>
<td>✗</td>
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<td>✓</td>
<td>✓</td>
<td>✗</td>
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<td>che&lt;sub&gt;IT&lt;/sub&gt;</td>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table1: A few crosslinguistic differences in the C category
Pseudorelatives

- Italian/Spanish/French/Dutch clauses introduced by che/que/qui/die allow (at least) one additional meaning/structure which is not available in English; these structures (or set of structures) are known as **Pseudo Relatives** (Radford 1977; Kayne 1981; Declerck 1981; Guasti 1988, 1990; Rizzi 1991; Cinque 1992; Brito, 1995; Rafel 1999; Koopman and Sportiche 2010 among many others).
PRs are not Restrictive RCs:

- Pseudo Relatives look like normal RCs,
- But they are structurally similar to Small Clauses, not to RCs

- Ho visto [Gianni che correva]
- I saw [Gianni running]

- Vejo o teu filho que está a chorar (Brito 1995)
## Table 2: Contrastive properties of RCs and Pseudo Relatives

<table>
<thead>
<tr>
<th>Property</th>
<th>Restrictive RCs</th>
<th>Pseudo Relatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability w. Proper Name</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Availability w. objects</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Availability w. Rel Pronouns</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Availability in SC env.</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>NP modifier</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>VP modifier</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Refers to individual</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Refers to proposition</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Aspectual restriction</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>
Pseudo Relatives

• **Pseudo Relatives (PR)** come in different varieties:
• Argument of matrix VP:
  2. Ho visto \[_{PR} \text{Gianni} \ [_{CP} \text{che correva come un pazzo}]\]
     \(I\ \text{saw Gianni that ran like crazy / running like crazy}\)

• Adjunct/Adverbial modifier of matrix VP:
  3. Ho [colpito \[_{PR} \text{Gianni} \ [_{CP} \text{che saltava}]\]
     \(I\ \text{hit Gianni that was jumping / while he was jumping}\)

  4. Gianni e’ arrivato \[_{PR} \text{che stava ancora piovendo}\]
     \(Gianni\ \text{arrived that it was still raining / while it was still raining}\)
Pseudo Relatives

Ho visto [$_{PR}$Gianni [che correva come un pazzo]]
I saw [$_{SC}$ John [running like crazy]]
Implications for Attachment Preference studies

• That some languages have alternative (to RC) syntactic structures in NP1 P NP2 CP context has widespread implications for parsing and requires careful reconsideration of the experimental results accumulated over the years.

• E.g.:
  – frequency-based accounts: separate estimates for RCs and PRs.
  – Silent Prosody: identify prosodic properties of PRs
Hypothesis

Observed crosslinguistic variation reduces to availability of PRs

Corollary: All attachment is local, respecting Right Attachment / Late Closure / Recency
PRs and Attachment

• No PR
  – English
  – German
  – Romanian?

• PRs
  – Spanish
  – Italian
  – French
  – Dutch
  – Croatian
  – Portuguese (LIMITED)
  – Bulgarian?

LOW ATTACHMENT  HIGH ATTACHMENT
A word of Caution

• Strong version:
  – IF $L_1$ has PRs THEN High Attachment

• BUT: as we have seen, different kinds of PRs, and many languages have some but not all varieties (e.g. Portuguese)

• Proper version:
  – Availability of PRs modulates Attachment Preferences in $L_1$
  – i.e.: IF $L_1$ has all kinds of PRs THEN High Attachment
  – IF $L_\times$ has only some PRs THEN mixed preferences (e.g. Portuguese)
Interim on PRs in European Portuguese

• *Claim*: pseudo-relatives are not as easily available in European Portuguese as in other languages (e.g. Italian – Cinque 1992).

• *Caveat*: given the claim in the literature that there are pseudo-relatives (Brito 1995), a Grammaticality Judgment Task was run on 20 speakers, with consistent results. Further investigation will try to detect factors favoring PRs (Fernandes, in prep.)
PRs: EP vs. Italian

Ban on non-restrictive interpretation for relative clause after proper name:

(1)  a. *Eu vi o Pedro que corria. (EP)
    b. Ho visto Petro che correva. (It)

Ban on relative clause modifying clitic.

(2)  *Eu vi-o que corria (EP)
    L’ ho visto che correva. (It)
Free alternation between pseudo-relatives and small clauses in Italian only:

A. Complement small clauses:

It: Non sopporto Gianni e Mario {che fumano in casa mia/vestiti così}

EP: Não suporto o João e o Mário {*que fumam em minha casa/ok vestidos assim}
Free alternation between pseudo-relatives and small clauses in Italian only:

B. Adjunct small clauses predicated of a subject:

It: Gianni lasciò la stanza {ubriaco/che era ancora sotto l’effetto dell’alcohol}

EP: O João deixou a sala {bêbedo/*que estava ainda sob o efeito do álcool}
PRs: EP vs. Italian

Free alternation between pseudo-relatives and small clauses in Italian only:

C. Small clauses in absolute “with” contexts:
It: Con Gianni {malato/che fuma}, non possiamo partire.
EP: Com o João {doente/*que fuma}, não podemos partir.

D. Progressive interpretation in existential constructions:
It: C’è qualcuno che fuma. (= there’s someone smoking)
EP: Há alguém que fuma. (≠ there’s someone smoking)
PRs: EP vs. Italian

Free alternation between pseudo-relatives and small clauses in Italian only:

E. “Mad Men Magazine” contexts.
It: Mario {ubriaco/che fuma}?! È impossibile!
EP: O Mário {bêbedo/*que fuma}?! É impossível!

F. Coordination between Small Clause and relative clause:
It: Ho visto Mario ubriaco e che fumava in casa mia.
EP: *Vi o Mário bêbedo e que fumava em minha casa.
PRs: EP vs. Italian

Free alternation between pseudo-relatives and small clauses in Italian only:

E. “Mad Men Magazine” contexts.

It: Mario {ubriaco/che fuma}?! È impossible!
EP: O Mário {bêbedo/*que fuma}?! É impossível!

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It: Ho visto Mario ubriaco e che fumava in casa mia.
EP: *Vi o Mário bêbedo e que fumava em minha casa.
PRs: EP vs. Italian

• In all contexts in which EP speakers reject pseudo-relatives, prepositional infinitival clauses (PIC) are grammatical. These have been analyzed as small clauses or defective clausal domains (Raposo 1989, Duarte & Gonçalves 1992, Cochofel 2005).
PRs: EP vs. Italian

A. Complement small clauses:
EP: Não suporto o João e o Mário a fumar.

B. Adjunct small clauses predicated of a subject:
EP: O João deixou a sala a beber.

C. Small clauses in absolute “with” contexts:
EP: Com o João a fumar, não podemos partir.
PRs: EP vs. Italian

D. Progressive interpretation in existential constructions:
EP: Há alguém a fumar. (= there’s someone smoking)
E. “Mad Men Magazine” contexts.
EP: O Mário a fumar?! É impossível!
F. Coordination between Small Clause and relative clause:
EP: Vi o Mário bêbedo e a fumar.

Conclusion: PICs are the Portuguese correlate of Italian PRs.
Predictions

• **Universal Low Attachment** with genuine Restrictive RCs;

• **High Attachment** preference for unambiguous correlates of PR, such as SCs in English or Prepositional Infinitival Clauses in Portuguese (in object position!):
  
  – *I saw the son of the doctor running*

  – *Vi o filho do medico a correr*
Subjects = High Attachment

• Low Attachment in BOTH English and Spanish in Subject Position (Hemforth, S. Fernández, Clifton, Frazier, Konieczny and Walter, 2002):

6. a. The maid of the actress that EC₂ was sitting on the balcony is blonde
b. La criada₁ de la actriz₂ que EC₂ estava en el balcón es rubia

→ NO PRs available in subject position:
7. The maid of the actress sitting on the balcony = The maid of the actress (that was) sitting on the balcony
Attachment Preferences in Nominals
(Gibson et al. 1996)

• **Low Attachment in BOTH Spanish and English in NP Context**

5. a. *The lamp*$_1$ near the *painting*$_2$ of the house that$_3$$_1$$_2$ was damaged in the flood

   b. *La lámpara*$_1$ cerca de la *pintura*$_2$ de la *casa*$_3$ que$_3$$_1$$_2$ fue dañada en la inundación.

➔ PRs NOT an option in NP Context (no VP attachment site)
PRs and 3 arguments

- Similar findings in Gibson et al. 1999 in Verbal Context:

8. *El astronómo predijo el cambio₁ de la orbita₂ del planeta₃ que EC₃₁>₂ se observó desde el satélite*

- PRs only attach to argument closer to the verb, for the other two NPs late closure applies.
**of vs. with, De Vincenzi and Job 1995**

- Asymmetry between *of* and *with*:
- Italian (but also French):
  - NPI di/of NP2 = High Attachment (offline)
  - NPI with/con NP2 = Low Attachment with *with*

  Qualcuno ha sparato alla governante dell’attrice che stava seduta in balcone
  > PRs Available
  Qualcuno ha sparato alla governante con l’attrice che stava seduta in balcone
  > NO PRs Available
Ongoing Experiments

• The experiments manipulate different factors making the PR unavailable.

• *Che* (ambiguous) vs. *il quale* (not ambiguous)
  – *che* ambiguous between C and relative pronoun, while *il quale* is genuine pronoun and only introduces RCs

• Tense: PRs require T to match matrix verb T
  – e.g.: #Ho visto Gianni che correrá (OK with RC meaning: more than one Gianni)

• Subject/object extraction: PRs compatible only with subject extraction.
  – Traditionally, however, Attachment Preference literature ALWAYS (to our knowledge) tested subject RCs.
Ongoing Experiments II: PIC

• Alguem viu o filho do medico a correr a maratona
• O filho do medico a correr a maratona é muito jovem
Obrigado!
nino.grillo@gmail.com
jcosta@fcsh.unl.pt