EXPERIMENTAL SYNTAX OF CROATIAN: LINEARITY BEATS HIERARCHY IN GENDER AGREEMENT

Anita Peti-Stantić, University of Zagreb

University of California Berkeley
CogNetwoork Meeting
April 2016
COORDINATED RESEARCH IN THE EXPERIMENTAL MORPHOSYNTAX OF SOUTH SLAVIC LANGUAGES (EMSS)

Leverhulme project: http://www.ucl.ac.uk/pals/research/linguistics/research/leverhulme

Andrew Nevins, UCL, Research Head
Jana Willer Gold, Network Coordinator
Partners: Nova Gorica, Zadar, Zagreb, Sarajevo, Novi Sad, Niš
MOTIVATION AND BACKGROUND

• Some languages have rules which are basically syntactic, others rely on a semantic principle and yet others show interesting combinations of the two principles. … gender resolution rules are language specific.
  • [Corbett, Resolution rules, CH8, Agreement pp 175]

  • Greville Corbett: Hierarchies, Targets, and Controllers: Agreement Patterns in Slavic Languages; Gender; Number; Features; Agreement ; The Syntax-morphology interface; Canonical Morhpology and Syntax
In a variety of languages (in Slavic language family Bosnian, Croatian, Serbian, Slovenian, in other languages - Hindi, Ndebele), coordinated subjects (and in some cases, objects) consisting of two (and more) NPs can trigger verbal agreement with only one of these noun phrases, rather than with the coordination as a whole.

**TERMINOLOGY:**
- non-coordinated/simple/non-conjoined subjects
- coordinated/complex/conjoined subjects
- full/resolved agreement vs. partial agreement (agreement with a single conjunct)
BASIC FACTS

• AGREEMENT – South Slavic languages
  • Verbs obligatorily agree with subjects (both pre- and post-verbally)
  • Agreement with finite verbs (aux and main verbs) in person & number – without exception
    • Stol stoji nasred sobe. ‘The table is in the middle of the room.’
    • 3.sg 3.sg
    • Stolovi stoje nasred sobe.
    • 3.pl 3.pl
    • Nasred sobe stoji stol. ‘In the middle of the room there is a table.’
    • Nasred sobe stoje stolovi.
    • Ja stojim nasred sobe. ‘I am in the middle of the room.’
    • 1.sg 1.sg
    • Mi stojimo nasred sobe.
    • 1.pl 1.pl

• Agreement with participles in number & gender – without exception with number, variable with gender
**BASIC DATA – FULL AGREEMENT**

<table>
<thead>
<tr>
<th>NON-COORDINATED SUBJECTS</th>
<th>NON-COORDINATED SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sg</strong></td>
<td><strong>Pl</strong></td>
</tr>
<tr>
<td>• Dječak je zaustavljen.</td>
<td>• Dječaci su zaustavljeni.</td>
</tr>
<tr>
<td>• boy. MASC. SG AUX. SG stop. Part. MASC. SG</td>
<td>• Boy. MASC. PL AUX. PL stop. Part. MASC. PL</td>
</tr>
<tr>
<td>• Pjesma je otpjevana.</td>
<td>• Pjesme su otpjevane.</td>
</tr>
<tr>
<td>• song. FEM. SG AUX. SG sing. Part. FEM. SG</td>
<td>• Song. FEM. PL AUX. PL sing. Part. FEM. PL</td>
</tr>
<tr>
<td>• Pismo je poslano.</td>
<td>• Pisma su poslana.</td>
</tr>
</tbody>
</table>
PARTIAL AGREEMENT

• Dječak i pas su zaustavljeni.
  • boy.MASC.SG dog.MASC.SG AUX:PL stop.Part.MASC.PL

• Dječaci i psi su zaustavljeni.
  • boy.MASC.PL dog.MASC.PL AUX:PL stop.Part.MASC.PL

• Pjesma i melodija su otpjevane.
  • Song.FEM.SG melody.FEM.SG AUX.PL sing.Part.FEM.PL

• Pjesme i melodije su otpjevane.
  • song.FEM.PL melody.FEM.PL AUX.PL sing.Part.FEM.PL

• Pismo i pero su poslani.
  • letter.N.SG feather.N.sg AUX.PL send.Part.MASC.PL

• Pismo i pero su poslana.
  • letter.N.SG feather.N.sg AUX.PL send.Part.N.PL

• Pisma i pera su poslana.
  • letter.N.SG feather.N.sg AUX.PL send.Part.N.PL
BASIC FACTS: MASCULINE

- Sg
  - Dječak je zaustavljen. Zaustravljen je dječak.

- Pl
  - Dječaci su zaustavljeni. Zaustravljeni su dječaci.

- Sg&Sg
  - Dječak i pas su zaustavljeni. Zaustravljeni su dječak i pas.

- Pl&Sg
  - Dječaci i pas su zaustavljeni. Zaustravljeni su dječaci i pas.

- Sg&Pl
  - Dječak i psi su zaustavljeni. Zaustravljeni su dječak i psi.

- Pl&Pl
  - Dječaci i psi su zaustavljeni. Zaustravljeni su dječaci i psi.

- ... Agreement pattern with Masculine NP’s is repeated in Feminine agreement patterns, but not in Neuters.

- **M+M= always M**
BASIC FACTS: FEMININE

- Sg
  - Djevojčica je zaustavljena.
- Pl
  - Djevojčice su zaustavljene.
- Sg&Pl
  - Djevojčica i mačka su zaustavljene.
  - ? Djevojčice i mačka su zaustavljene. DEF
- PI&Pl
  - Djevojčica i mačke su zaustavljene.
  - ? Djevojčice i mačke su zaustavljene. DEF
- PI&PI
  - Djevojčice i mačke su zaustavljene.
  - ? Djevojčice i mačke su zaustavljene. DEF

- F+F= always F
BASIC FACTS: NEUTRUM

- **Sg**
  - Pismo je poslano.

- **Pl**
  - Pisma su poslana.

- **Sg&Sg**
  - Pismo i pero su poslani. **DEF**
  - *Pismo i pero su poslana.*

- **Pl&Sg**
  - Pisma i pero su poslani. **DEF**
  - *Pisma i pero su poslana.*

- **Sg&Pl**
  - Pismo i pera su poslani. **DEF**
  - ?Pismo i pera su poslana.

- **Pl&Pl**
  - Pisma i pera su poslana.

**N+N= N and M** (coordinated sg’s, some coordinated structures with pl involving sg)
BASIC FACTS: PUZZLE

• What happens when the coordinated subjects consists of two nouns that differ in gender?

• Alltogether 9 combinations
  • 3 same-gender combinations: MM, FF, NN
  • 6 different-gender combinations: MF, MN, FM, FN, NM, NF
    • (directionality matters: MF and FM is not the same)
QUESTIONING THEORETICAL ASSUMPTIONS

• 1. Coordination between same-gender nouns > full agreement in plural (M > M, F > F, N > N)
  • PUZZLE: sg+sg; pl+pl; sg+pl; pl+sg >pl, but no full gender agreement in gender all conditions

• 2. Coordination between different-gender nouns > ‘partial agreement’ (sg+sg/pl+pl.sg+pl/pl+sg >pl, but...
  • MF > M and/or F
  • MN > M and/or N
  • FM > F and/or M
  • FN > F and/or N and/or M
  • NM > N and/or M
  • NF > N and/or F and/or M
THEORETICAL ASSUMPTIONS

• Grammars treat Masc as a default/last resort
• If coordination contains Masc, significantly higher proportion of Masc agreement
• If coordination contains Masc, significantly FASTER
  • most probably because of Masc default, ‘consolation’ option
  • (OR SLOWER as ‘last resort’)

• The most interesting conditions are FN and NF (without Masc)

  • MF > M and/or F
  • MN > M and/or N
  • FM > F and/or M
  • FN > F and/or N and/or M
  • NM > N and/or M
  • NF > N and/or F and/or M
TWO DIFFERENT MECHANISMS

• 1. (Hierarchically) highest/first conjunct (Highest Conjunct Agr) – HCA/FCA
  • In SV – first (FCA) and at the same time the furthest conjunct
  • In VS – first (FCA), but at the same time closest

• 2. (Linearly) closest conjunct (Closest Conjunct Agr) – CCA
  • In SV - lowest ranked conjunct
  • In VS - highest ranked conjunct

• Never agreement with conjunct that is neither the highest/first nor the closest (conjunction with more than two conjuncts, second conjunct in VS)
THEORETICAL ASSUMPTIONS

• SV

HCA/FCA

• VS

CCA
PREVIOUS RESEARCH

• Bošković, 2009: CCA in SV positions blocked when M hierarchically highest/linearly first
  • ?*Svi gradovi i sva sela su (juče) uništena.

• Murphy and Puškar, 2014: CCA is an illusion

• Marušić et al. 2015: effects of mixing genders and directionality
  • Finding 1: Some default masculine agreement occurs even when both conjuncts are same gender (FF, NN)
  • Finding 2: More default agreement when conjuncts are neuter than feminine
  • Finding 3: Masc Agreement with Masc + non-Masc ambiguous: either default agreement or FCA/CCA
  • Finding 4: NF and FN cases reveal three distinct response types: highest, closest and default
## Previous Research

<table>
<thead>
<tr>
<th>Locus of an agreement</th>
<th>&amp;P</th>
<th>HCA</th>
<th>CCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bošković</td>
<td></td>
<td>Syntax</td>
<td></td>
</tr>
<tr>
<td>Murphy&amp;Puškar</td>
<td></td>
<td>Syntax</td>
<td></td>
</tr>
<tr>
<td>Marušič et al.</td>
<td>Syntax</td>
<td></td>
<td>PF</td>
</tr>
<tr>
<td>EMSS</td>
<td>✓ ✓</td>
<td>✓</td>
<td>✓ ✓ ✓</td>
</tr>
</tbody>
</table>

PREVIOUS RESEARCH
SV AND VS AGREEMENT: PILOT

• THREE CONJUNCTS SV:
  • Pjesme, pisma i poruke su poslane.  
    • F  N  F  F  
    • *Pjesme, pisma i poruke su poslana.  
      • F  N  F  N  
  • Pjesme, pisma i poruke su poslani.  
    • F  N  F  F
  • HCA or CCA

• TWO CONJUNCTS SV:
  • Pjesme i pisma su poslana.  
    • F  N  N  
    • Pjesme i pisma su poslane.  
      • F  N  F  
    • Pjesme i pisma su poslani.  
      • F  N  M
  • CCA

• TWO CONJUNCTS VS:
  • Poslane su pjesme i pisma.  
    • F  F  N  
    • *Poslana su pjesme i pisma.  
      • N  F  N
  • Poslani su pjesme i pisma.  
    • M  F  N
  • neither CCA nor HCA

• DEF
EXPERIMENT: MATERIALS AND PARTICIPANTS

• Controlled experimental study
• 6 partner sites in 4 countries (Slovenia, Croatia 2x, Bosnia, Serbia 2x)
• Uniformity vs. Site specificity
  • uniform experimental testing battery at six universities in parallel
  • keep experimental settings as identical as possible
    • uniform stimulus design, presentation methods, number of participants
  • quantitative analysis
GENERAL GOALS OF THE STUDY

• To extend the purview of psycholinguistic research of morphosyntactic variability to the South Slavic languages.

• Measure elicited production latencies as a function of the ‘ambiguity’ of the structural possibilities to be produced - a measure of the degree of inter-individual variation for given conditions.

• **HY0**: The structures with the richest array of possibilities (CondFN and NF) - greatest variability of responses

• **HY1**: Preverbal coordinated structures allow a richer array of agreement controllers.
FIRST EXPERIMENT 2015

• **GOAL:** ELICIT SPOKEN AGREEMENT WITH THE PREVERBAL AND POSTVERBAL COORDINATED SUBJECTS.

• **TASK:** preverbal (1a) and postverbal (1b) coordinated subjects matched and non-matched in gender

• **TYPE OF EXPERIMENT:**
  • self-paced reading and sentence completion task
  • on-line elicited production task with digital recording of responses

• **RECORDING AND CODING:**
  • Audacity, Praat, IBEX
  • coded according to agreement endings and agreement features

• **PARTICIPANTS:** n=30 [1st year student, attended the local secondary school, non linguist, not students of B/C/S/S Language, F/M 50/50]

• **LANGUAGE/DIALECT/VARIETY:** Neutral dia-standard.
FIRST EXPERIMENT 2015

• EXPERIMENTAL ITEMS:
  • 9 conditions (matched: MM, FF, NN, non-matched: MF, MN, FM, FN, NM, NF)
  • 6 items per condition
    • 54 test examples
    • 54 fillers
    • total of 108 sentences
  • 2 subexperiments for preverbal and postverbal condition

• Model sentences used as primes for the test examples contained a simple non-conjoined singular subjects in Masculine.
GENERAL CONDITIONS

• 1: INTERNAL STRUCTURE of model sentence
  • WO and internal structures:
    • COND SV: [S Aux V Adv], [S Aux V PP]
    • COND VS: [Adv Aux V S], [PP Aux V S]
  • all nouns in subject and non-subject positions are inanimate plurals

• 2. AVERAGE LENGTH WAS BALANCED

• 3. SV-VS CONSISTENCY MEANS SV-VS COMPARABILITY (information structure concern)
PRESENTATION OF STIMULI

• Model sentence:
  • Prijevod je ovjeran pečatom.
  • translation.MASC.SG AUX.SG authenticated.MASC.SG seal

• Replacement phrase:
  • Molbe i rješenja
  • requests.FEM.PL and solutions.NEUT.PL

• Produced response:
  • Molbe i rješenja su ovjereni/-a/-e pečatom
  • requests.FEM.PL and solutions.NEUT.PL AUX.PL authenticated.MASC/FEM/NEUT.PL by.seal
FILLERS

• 6 general conditions: simple non-conjoined subjects in all genders and numbers (Msg, Mpl, Fsg, Fpl, Nsg, Npl)

• 3 additional filler conditions correlating with each of the 6 model sentence conditions consisted of 3 examples, where the 3 conditions were: Paucal, Hybrid noun and Object Relative clause

• Ulica je zatvorena za promet.
• Kćerka je naslijedila bogatstvo.
• Reklama je puštena na radiju.

Tri trga
Vojvoda
Pitanje koje su slušatelji
PRELIMINARY RESULTS:
Zagreb SV vs. VS
NEW EXPERIMENT: ZAGREB 2016

• EXPERIMENTAL DESIGN

• SAME as 2015
  • IBEX
  • stimuli presentation
  • mostly the same sentences

• DIFFERENT from 2015
  • only SV position (54 exp stimuli and 54 fillers – 108 sentences)
  • adverbs and adverbial constructions preceded coordinated structure (informations structure concern)
  • presentation of stimuly somewhat different (memory concern)
  • different fillers
PRESENTATION OF STIMULI

• **Večeras** je pjenušac natočen u čaše.
  • tonight.ADV AUX.sg champagne.MASC.SG poured.MASC.SG ADV

• **Večeras** su vina i rakije __________ u čaše.
  • tonight.ADV AUX.pl wines.N.SG and spirit.F.SG poured.MASC.SG ADV
FILLERS (animate M and F)

• Iznenada je mladić protrčao terenom.
  • A boy suddenly run across the court.

• Iznenada su sportašice i novinari __________ terenom.
  • Sportswomen and reporters __________ the court.

• Iznenada je djevojka protrčala terenom.
  • A girl suddenly run across the court.

• Iznenada su sportašice i novinari __________ terenom.
  • Sportswomen and reporters __________ the court.
SORTING STIMULI

• 1: stimuli with the coordination between the same gender conjuncts (MM, FF, NN)

• 2: stimuli that include M as a FCA/HCA or CCA (MF, MN, FM, NM)

• 3: stimuli that do not include M (NF and FN)
SV AGREEMENT ZAGREB 2015 AND 2016

Zagreb, 2015 experiment

<table>
<thead>
<tr>
<th>SV</th>
<th>M</th>
<th>F</th>
<th>N</th>
<th>No result</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>98%</td>
<td>0%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>FF</td>
<td>15%</td>
<td>78%</td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>NN</td>
<td>15%</td>
<td>0%</td>
<td>85%</td>
<td>0%</td>
</tr>
<tr>
<td>MF</td>
<td>83%</td>
<td>16%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>MN</td>
<td>52%</td>
<td>0%</td>
<td>47%</td>
<td>1%</td>
</tr>
<tr>
<td>FM</td>
<td>80%</td>
<td>2%</td>
<td>0%</td>
<td>18%</td>
</tr>
<tr>
<td>NM</td>
<td>76%</td>
<td>0%</td>
<td>6%</td>
<td>18%</td>
</tr>
<tr>
<td>FN</td>
<td>39%</td>
<td>6%</td>
<td>54%</td>
<td>1%</td>
</tr>
<tr>
<td>NF</td>
<td>51%</td>
<td>28%</td>
<td>18%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Zagreb, 2016 experiment

<table>
<thead>
<tr>
<th>SV</th>
<th>M</th>
<th>F</th>
<th>N</th>
<th>No result</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>98.77%</td>
<td>0%</td>
<td>0%</td>
<td>1.23%</td>
</tr>
<tr>
<td>FF</td>
<td>8.02%</td>
<td>90.12%</td>
<td>0%</td>
<td>1.85%</td>
</tr>
<tr>
<td>NN</td>
<td>14.81%</td>
<td>1.85%</td>
<td>83.33%</td>
<td>0%</td>
</tr>
<tr>
<td>MF</td>
<td>70.99%</td>
<td>26.54%</td>
<td>0%</td>
<td>2.47%</td>
</tr>
<tr>
<td>MN</td>
<td>62.35%</td>
<td>0.62%</td>
<td>35.8%</td>
<td>1.23%</td>
</tr>
<tr>
<td>FM</td>
<td>96.91%</td>
<td>0%</td>
<td>0%</td>
<td>3.09%</td>
</tr>
<tr>
<td>NM</td>
<td>93.83%</td>
<td>0%</td>
<td>4.32%</td>
<td>1.85%</td>
</tr>
<tr>
<td>FN</td>
<td>42.59%</td>
<td>11.73%</td>
<td>45.68%</td>
<td>0%</td>
</tr>
<tr>
<td>NF</td>
<td>39.51%</td>
<td>46.91%</td>
<td>9.26%</td>
<td>4.32%</td>
</tr>
</tbody>
</table>
SV AGREEMENT ZAGREB 2016

<table>
<thead>
<tr>
<th></th>
<th>MM</th>
<th>FF</th>
<th>NN</th>
<th>MF</th>
<th>MN</th>
<th>FM</th>
<th>NM</th>
<th>FN</th>
<th>NF</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>1.2%</td>
<td>1.7%</td>
<td>0.0%</td>
<td>2.5%</td>
<td>1.2%</td>
<td>3.1%</td>
<td>1.9%</td>
<td>0.0%</td>
<td>4.3%</td>
</tr>
<tr>
<td>N.pl.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>83.3%</td>
<td>0.0%</td>
<td>35.8%</td>
<td>0.0%</td>
<td>4.3%</td>
<td>45.7%</td>
<td>9.3%</td>
</tr>
<tr>
<td>F.pl.</td>
<td>0.0%</td>
<td>90.1%</td>
<td>1.9%</td>
<td>26.5%</td>
<td>0.6%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>11.7%</td>
<td>46.9%</td>
</tr>
<tr>
<td>M.pl.</td>
<td>98.8%</td>
<td>8.2%</td>
<td>14.8%</td>
<td>71.0%</td>
<td>62.4%</td>
<td>96.9%</td>
<td>93.8%</td>
<td>42.6%</td>
<td>39.5%</td>
</tr>
</tbody>
</table>
SAME GENDER COORDINATION

• ASSUMPTIONS

• If there are three/four agreement grammars (&P, HCA/FCA, CCA), we might expect them to occupy the same percentages (either 33.3% each or 25% each).

• However, N behaves differently in sg (N.SG+N.SG=M) and sometimes in plural
  • Pismo i pero su poslani.  DEF
  • Pisma i pero su poslani.  DEF
  • Pero i pisma su poslani.  DEF

• Also, there is an option for F+F=M in singular!
  • ? Djevojčice i mačka su zaustavljeni.  DEF
SAME GENDER COORDINATION

**SV agreement - same gender**

<table>
<thead>
<tr>
<th>Year</th>
<th>MM</th>
<th>2015</th>
<th>F</th>
<th>FF</th>
<th>2015</th>
<th>NN</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td>1.7%</td>
<td></td>
<td>6.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>2.0%</td>
<td>0.0%</td>
<td></td>
<td>1.0%</td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td>2016</td>
<td>1.2%</td>
<td></td>
<td>0.0%</td>
<td></td>
<td>1.9%</td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>98.0%</td>
<td>90.1%</td>
<td>78.0%</td>
<td>83.3%</td>
<td>85.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

- **No response**
- **N.pl.**
- **F.pl.**
- **M.pl.**
DIFFERENT GENDER COORDINATION (with M)

• ASSUMPTIONS

• MF, FM, MN, NM

• expected difference between M in HCA/FCA and M in CCA

• testing difference between F and N in CCA
DIFFERENT GENDER COORDINATION
(with M)

---

**SV agreement - incl M**

<table>
<thead>
<tr>
<th></th>
<th>MF</th>
<th>FM</th>
<th>MN</th>
<th>NM</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>2.5%</td>
<td>3.1%</td>
<td>1.2%</td>
<td>1.9%</td>
</tr>
<tr>
<td>N.pl.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>35.8%</td>
<td>4.3%</td>
</tr>
<tr>
<td>F.pl.</td>
<td>26.5%</td>
<td>0.0%</td>
<td>0.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>M.pl.</td>
<td>71.0%</td>
<td>96.9%</td>
<td>62.4%</td>
<td>93.8%</td>
</tr>
</tbody>
</table>
DIFFERENT GENDER COORDINATION (with M)

- **FM** – 96.9% M  
  **MF** – 71.0% M
- **NM** – 93.8% M  
  **MN** – 62.4% M
  - Significant difference between M as HCA/FCA and M as CCA (combined difference approximately 95 : 66)
  - Insignificant result (so far) between F and N as CCA

- **Why do I think M matters?**
  - because compared to NN and FF conditions:
    - **FF** – 90.0 % F
    - **NN** – 83.3% N
    - **M in FM and NM is almost at the ceiling, such as in MM (98.8%) !!!**
DIFFERENT GENDER COORDINATION (with M)

- In HCA/FCA condition (MF/MN), M complies with **3 out of 4 mapping constraints**: HCA, FCA and &P (expect high percentage, around 75%)
  - WHAT WE GET?
    - MF – 71%
    - MN – 62.4%

- In CCA condition (FM/NM), M complies with **only 2 mapping constraints**: CCA and &P (expect lower percentage than in HCA/FCA)
  - WHAT WE GET?
    - FM – 96.9%
    - NM – 93.8%

- M in MF – 71% compared to 96.9% of M in FM
- M in MN – 62.4% compared to 93.8% of M in NM

- **RESULTS** obviously and strongly point in the direction of CCA agreement!
INTERIM CONCLUSIONS

• Same gender conjunct agreement and different gender conjunct agreement with M point to two conclusions:

  • 2. being Masc matters
    • not insignificant number of Masc in Non-Masc conditions (FF and NN)
    • exceptionally high number of Masc in both +Masc condition (especially MF, MN)

  • 1. linearity matters
    • percentage of M in CCA is significantly higher than in HCA/FCA
    • in comparison of HCA/FCA and CCA conditions, F and N gain some ground only in CCA condition
DIFFERENT GENDER COORDINATION (without M – only FN and NF)

• ASSUMPTIONS

• FN and NF
  • all three agreement grammars expected
  • the same pattern expected for both conditions
  • after all, F in FN and N in NF expected to reach the lowest realization (because it’s HCA/FCA)
DIFFERENT GENDER COORDINATION (without M – only FN and NF)
CONCLUSION

• THREE/FOUR STRATEGIES OF AGREEMENT among speakers and across them

• HCA somewhat sensitive to the value of gender (difference between N and F)

• CCA most widely spread agreement grammar, most efficient in terms of data integration