Hierarchy effects in copular constructions: The PCC corner of German

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Main claims

- German copula constructions show **hierarchy effects** similar to: PCC effects (e.g. Romance, Basque), inverse constructions (e.g. Algonquian), Agent Focus (e.g. Mayan), and DAT–NOM patterns (e.g. Icelandic)
- What these have in common: **multiple accessible NPs in the domain of a single agreement probe** (see e.g. Béjar & Rezac 2003; Anagnostopoulou 2005; Adger & Harbour 2007; Nevins 2007; Preminger 2014)

(1) GOOD: 1≫3
[Probe^0 [NP$_{[+PART]}$ … [… NP$_{[−PART]}$]]]

(2) BAD: 3≫1
[Probe^0 [NP$_{[−PART]}$ … [… NP$_{[+PART]}$]]]

A Hierarchy Effect in German

(3) **Person:**
a. Ich bin er. (I am he)
b. *Er ist ich. (he is I)

(4) **Number:**
a. Sie sind er. (they are him)
b. *Er ist sie. (he is them)

➢ **Hypotheses tested in our experiment:**

1. *3 > Participant, ✓Participant > 3
2. *SG > PL, ✓PL > SG

- No parallel restriction in English

Why German? Why copulas?

- In German copulas, both NPs are nominative (default case) and accessible to *Agree* (see Heycock 2012)
- In English, the predicate NP is inaccessible to agreement because it is accusative (see Bobaljik 2008)

An alternative

- **Heycock (2012)**: The copula agrees with **the more marked NP**, through inversion if it's the predicate:

(5) Das bist Du. (that are you)

(6) *Das ist Du. (that is you)

- **Our account:** True 3>2 is ineffable in German (6); (5) is 2>3 with a topicalized predicate:

(7) Das bist [du ~~bist~~ ~~das~~]

- Heycock: "Assumed identity sentences" like (3,4) are semantically asymmetric. **Her Claim:** Inversion is impossible here; (3b,4b) should be fine.

➢ **Our claim:** Agreement is always with non-predicate Hierarchy violations are bad. (3b,4b) should be out. (contra inversion as in Heycock 2012 & refs. there).

Experiment: Design

- **Sentence rating experiment:** English (23 participants) and German (15 participants)
6-point Likert scale (1 – *completely unacceptable*; 6 – *completely acceptable*)
- **Design:** manipulated person and number of both NPs in copula constructions
- **Stimuli:** Background story on role-playing game; each individual trial consisted of rating one assignment:

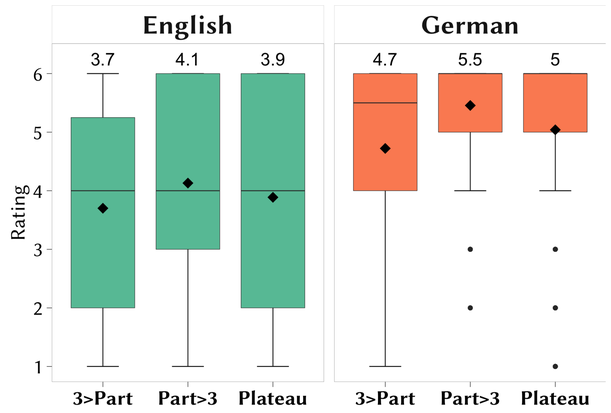
(8) *(pointing at you, then at your friend John)* You are him.

(9) *(zeigt auf dich, dann auf deinen Freund Karl)* Du bist er.

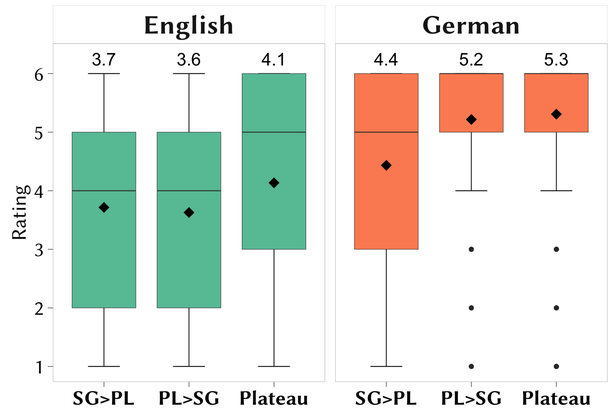
- **Control condition:** verb agreement inconsistent with either argument (**You am him; *Du bin er*)

Experiment: Results

Person hierarchy effects:



Number hierarchy effects:



- **Analysis:** Cumulative link mixed model with *Language*, as well as *Person hierarchy*, *Number hierarchy* and their interaction with *Language* as fixed effects, and random intercept and slopes by participant (including interactions)
- **Crosslanguage differences:**
  1. significant interaction between Language and 'Part > 3'–'3 > Part' comparison ($z = 2.4$)
  2. significant interaction between Language and 'SG > PL'–'PL > SG' comparison ($z = 4.2$)

➢ **German:**
1. '3 > Participant' was rated significantly worse than 'Participant > 3' ($z = 3.8$)
2. 'SG > PL' was rated significantly worse than 'PL > SG' ($z = 5$)

➢ **English:**
1. no difference between '3 > Part' and 'Part > 3' ($z = 1.1$)
2. no difference between 'SG > PL' and 'PL > SG' ($z = 0.2$)

➢ **German copula sentences show person and number hierarchy effects. English copula sentences do not.**

Discussion

- The interactions support the view that agreement is always with the subject (cf. Adger & Ramchand 2003), and the claim that German but not English shows hierarchy effects.
- However: hierarchy violations are acceptable (e.g. mean 4.4 above) compared to controls (mean: 1.4, not in figure). This is in line with Heycock's (2012) claim, but could be a grammaticality illusion (Wagers, Lau & Phillips, 2009).
- No effect for 1>2 vs. 2>1. This is parallel to 'weak PCC' patterns, where only [+/− participant] matters (Nevins 2007), but not not [+/− author].

Account

- Nevins' (2007) account of PCC effects can be extended to German copulas.
- 1st/2nd person: [+participant]; 3rd: [−participant]
- '+' values are marked, all NPs must be **licensed** through Agree (Béjar & Rezac 2009)
- **Multiple Agree:**
One probe can license more than one NP

(10) **Contiguous Agree**
Agree in a marked feature across an unmarked intervener is prohibited.

(11) **Good: Participant > 3**
[Probe^0 [NP$_{[+PART]}$ … [… NP$_{[−PART]}$]]]

(12) **Bad: 3 > Participant**
[Probe^0 [NP$_{[−PART]}$ … [… NP$_{[+PART]}$]]]

Number in PCC vs Copulas

- **Puzzle:** There are no "Number Case Constraint" effects in double-object constructions (Nevins 2011)—but we find a number effect in German copulas.

(13) **Good: PL > SG**
[Probe^0 [NP$_{[+PL]}$ … [… NP$_{[−PL]}$]]]

(14) **Bad: SG > PL**
[Probe^0 [NP$_{[−PL]}$ … [… NP$_{[+PL]}$]]]

- **Proposal:**
  1. Person and number are separate probes (e.g. Béjar & Rezac 2003)
  2. #^{0} universally higher than π^0 (Preminger 2011)
  3. Clitic doubling renders an NP invisible to agreement, removing the IO as an intervener (Anagnostopoulou 2003, Preminger 2009)—**but not in German copulas**.

(15) **Ditransitive PCC:**
[$_{vP}$ #^{0} [π^0 [$_{ApplP}$ NP$_{IO}$ [$_{VP}$ NP$_{DO}$]]]]
clitic-double

(16) **German copula:**
[$_{TP}$ #^{0} [π^0 [$_{PredP}$ NP$_{SUB}$ [NP$_{PRED}$]]]]

Acknowledgments

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