Hierarchy effects in copular constructions: The PCC corner of German

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This paper presents a new generalization about agreement in German copula constructions, and proposes an analysis that ties it to other well-established phenomena. We argue that German shows hierarchy effects similar to those observed in other languages: PCC effects (e.g. in Romance, Basque), inverse constructions (e.g. in Algonquian), Agent Focus (e.g. in Mayan), and certain dative–nominative patterns (e.g. in Icelandic). Specifically, we propose that what German copula constructions have in common with these environments is that there there are *multiple accessible NPs in the domain of a single agreement probe* (see e.g. Béjar and Rezac 2003; Anagnostopoulou 2005; Adger and Harbour 2007; Nevins 2007; Preminger 2014). We develop a Multiple Agree account (Hiraiwa 2001; Nevins 2007) which both derives apparent hierarchy effects from independent principles, and provides a new explanation for the apparent absence of "Number Case Constraint" (Num-CC) effects (cf. Nevins 2011).

The data: Heycock (2012) discusses different types of copula constructions in a variety of languages, including German. Consider the following German examples and their English counterparts:

(1) Du   { bist/*ist } das Problem.
     you.SG are/*is   } the problem
     'You { are/*is } the problem

(2) Das Problem { bist/*ist } du.
     the problem are/*is   you.SG
     cf. English: 'The problem { is/*are } you.'

Heycock (2012) concludes that in German copula constructions, the verb always agrees with the highest-ranked NP, whereas in English it always agrees with the subject. We argue that this characterization is not quite right. Rather, we propose that in German, as in English, the verb consistently agrees with the *subject*; surface agreement with the second NP, as in (2), actually involves movement of the predicate NP to first position (just like an accusative object occupying first position). This is supported by the fact that the construction in (2) has different information-structural properties from the construction in (1). Once these facts are taken into account, we show that certain combinations of subject and predicate NPs are simply *ineffable* in German copula constructions. Consider the pairs in (3)–(6):

(3) 1SG vs. 3SG   (4) 2PL vs. 3PL   (5) 1SG vs. 2SG   (6) 3SG vs. 3PL

     a. ✔ Ich bin er.   a. ✔ Ihr   seid sie.   a. ✔ Ich bin du.   a. ✔ Sie sind er.
         I   am he   you.PL are they   I   am you   they are he

     b. * Er ist ich.   b. * Sie sind ihr.   b. * Du bist ich.   b. * Er ist sie.
         he is I   they are you.PL   you are I   he is they

The (a) examples are acceptable in a supporting context (e.g. a role-playing game), while the (b) sentences are unacceptable in the same scenario. The data in (3)–(6) show that in German the copula construction is impossible in *3>1, *3>2, *2>1 and *PL>SG configurations. Judgments are corroborated by preliminary results from a judgments task: configurations that conform to a 1>2>3 hierarchy were rated better than ones that violate it, and PL>SG configurations were rated better than SG>PL ones. Though we depart from the core proposal in Heycock 2012, we build on her insight that the difference between English and German can be related to the fact that they differ in their default case: nominative in German; accusative in English. This difference provides the initial motivation for an *Agree*-based approach to the effects in (3)–(6). We propose that hierarchy effects do not arise in English because the predicate NP is not accessible to agreement, by virtue of being accusative (see Bobaljik 2008).

Person, number, and the PCC: The person hierarchy effects in (3b), (4b), and (5b) are reminiscent of Person Case Constraint (PCC) effects, and specifically what Nevins (2007) calls the "ultrastrong" PCC, which bans *3>1, *3>2, and *2>1 combinations. We argue that these phenomena should receive a unified account. The pair in (6), however, is surprising from a PCC-centered point of view. Here both arguments are 3rd person, and *number* must be considered. Nevins (2011) claims explicitly that such effects—i.e. a "Number Case Constraint"—should be impossible.

Proposal: We propose that Nevins (2007)'s account of ultrastrong PCC effects in terms of Multiple Agree can be extended to the person constraints in German copulas. Nevins proposes that person features are decomposed into the features [±participant] and [±author], where '+' values are marked. We assume that all NPs must be licensed through Agree with a functional head (e.g. Béjar and Rezac 2009). Nevins proposes that a probe can license more than one NP through Multiple Agree, which is subject to a
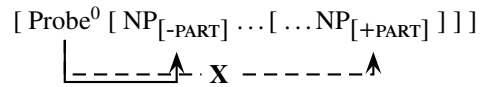
condition on *Contiguous Agree* (CA). CA prohibits Agree in a marked feature across an unmarked intervener. CA thus requires all *marked* features in the lower NP to be present in the higher NP.

(7) GOOD: 1≫3

   [Probe^0 [NP$_{[+PART]}$ …[…NP$_{[-PART]}$]]]

(8) BAD: 3≫1

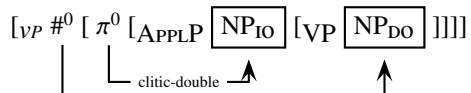   [Probe^0 [NP$_{[-PART]}$ …[…NP$_{[+PART]}$]]]
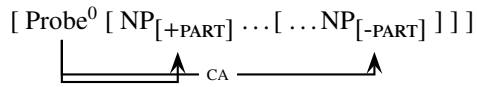
Assuming that clitics realize agreement with a probe (Anagnostopoulou 2003), PCC effects arise as violations of CA. In German copula constructions, because both NPs are nominative, they require licensing through Multiple Agree with T. Ungrammatical *3>1, *3>2, and *2>1 configurations violate CA.
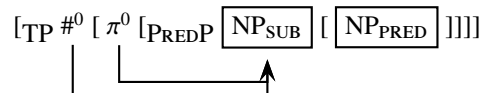
We now turn to the number hierarchy effect in (6), according to which SG>PL configurations are illicit in German, whereas PL>SG ones are grammatical. We propose that this restriction has the same anatomy as the person constraint. Assuming that singular is represented as [−plural] and plural as [+plural], where, as before, '+' represents the marked feature value, *SG>PL configurations like (6b) are ruled out by CA, because licensing of the predicate NP would require Agree in [+plural] past the subject [−plural] NP. Crucial to this account is that number features, similar to person features, are binary—contrary to the assumptions in Nevins (2011) (also see Bejár 2011 and Preminger 2014).

The absence of Number Case Constraints (Num-CC): A question that immediately emerges from our account is why number hierarchy effects are present in German copula constructions but conspicuously absent from PCC constructions (Nevins 2011). We propose that the crucial difference lies in the presence vs. absence of clitic doubling. Adopting proposals by Anagnostopoulou (2003) and Preminger (2009), we suggest that clitic doubling renders the doubled argument invisible to further agreement operations. Moreover, we follow Béjar and Rezac (2003) and others in treating person and number as separate probes (π^0 and $\#^0$), where the number probe is universally structurally higher than the person probe (Preminger 2011). The syntax of PCC and German copula configurations on this account are schematized in (9) and (10). In both, two NPs are accessible to a series of ordered ϕ-probes. In PCC configurations, the agreeing heads are low (i.e. v^0), while in copula constructions we assume the agreeing head is T^0. In the PCC construction, the clitic doubling that results from person agreement with the IO renders it invisible to future probing operations. With the IO rendered invisible, the $\#^0$ probe will always be able to agree with the DO in number features.

(9) DITRANSITIVE PCC

   [$_{vP}$ $\#^0$ [π^0 [$_{APPLP}$ NP$_{IO}$ [$_{VP}$ NP$_{DO}$]]]]

(10) GERMAN COPULA

   [$_{TP}$ $\#^0$ [π^0 [$_{PREDP}$ NP$_{SUB}$ [NP$_{PRED}$]]]]

The crucial difference between ditransitives and the German copula constructions, schematized in (10), is that the latter *does not involve clitic doubling*, and hence both NPs remain visible for number agreement. Our proposal therefore accounts both for the *absence* of number effects in double-object constructions, as well as for the *presence* of number effects in German copular constructions.

Implications: This paper proposes a new generalization about hierarchy effects in German copula constructions, and relates them to to PCC effects. An independently-motivated difference—clitic-doubling as a means of removing an intervener—derives the fact that PCC configurations ignore number, while German copulas constructions do not. This arguably provides a more principled explanation for the absence of NumCC effects than that of Nevins 2007. The proposal connects to a body of work which removes hierarchies from the grammar as a primitive, deriving hierarchy effects instead from independently-motivated principles. It further makes testable predictions about environments in which hierarchy effects should arise across languages (e.g. not in copula constructions in languages for which NP predicates are inaccessible to agreement, like English), as well as the types of feature interactions possible.

Select references: **Anagnostopoulou, E**. 2005. Strong and Weak Person Restrictions: A feature checking analysis. In *Clitic and Affix Combinations: Theoretical Perspectives.* ● **Heycock, C**. 2012. Specification, equation, and agreement in copular sentences. *CJL* 57. ● **Nevins, A**. 2007. The representation of third person and its consequences for Person-Case effects. *NLLT* 25.