Two Ways to Derive Partial Control: Evidence from German

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Synopsis. The proper treatment of Partial Control (PC) remains a matter of controversy – also because it is often not clear what the empirical picture is (see, e.g., Duffley 2014). In this paper, based on an experimental investigation of German PC, we show that German provides evidence for two mechanisms which give rise to the (apparent) controller-controllee mismatch characteristic of PC: first, a covert comitative (cf. Hornstein 2003, Boeckx, Hornstein & Nunes 2010; Sheehan's 2014 *Fake* PC), and second, a (marked) semantic operation in the spirit of Pearson's (2013, 2015) *extension*. German thus exhibits *Fake PC*, as well as productive *True PC* (pace Stiebels 2007, 2015). The study also suggests that there is no (morpho-)syntactic difference between exhaustive control (EC) and PC, allowing for the control relation to be established identically in the two cases (pace Landau 2000 *et seq*).

1. Introduction. Landau (2000) has argued that obligatory control (OC) falls into two types: (i) EC, which involves obligatory referential identity between controller and the covert infinitival subject (PRO for expository reasons; cf. (1a)), and (ii) PC, which allows the controller to be merely included in the denotation of PRO ((1b), cf. also Petter 1998; van Urk 2010; Grano 2012; Pearson 2013, 2015 among others. The PC reading is indicated by the index *i+* on PRO).

(1) a. John$_i$ tried [PRO$_{i/*j/*i+}$ to open the door]. b. John$_i$ hoped [PRO$_{i+}$ to gather in the town hall].

The PC reading in (1b) is forced by the collective predicate *gather* in the infinitival complement, which requires its subject to be (semantically) plural (cf. **John gathered in the town hall*).

2. Two Types of Approaches. There are two tendencies to reconcile PC with control theories designed to capture EC. The one tendency is to take PC at face value and account for the mismatch in terms of some (morpho-)syntactic difference between EC and PC (see, e.g., Landau 2000, 2008; Landau 2015; van Urk 2010; Grano 2012; Sheehan 2014, a.o. for analyses in this spirit). The other tendency is to argue that the controller-controllee mismatch in PC is only apparent, being an epiphenomenon of properties unrelated to control. E.g., Hornstein (2003), Boeckx, Hornstein & Nunes (2010) relate PC to properties of the embedded predicate, i.e. its ability to license comitatives. PC for them is thus EC with an embedded covert comitative (2).

(2) John$_i$ promised [PRO$_i$ to gather *pro*$_{\text{COMITATIVE}}$ in the town hall] (=*Fake* PC)

While this analysis has been argued to be problematic for English (Landau 2007, to appear), Sheehan (2014) claims that it makes the correct predictions for Romance PC (into non-inflected infinitives), which is only acceptable if the embedded predicate licenses comitatives.

3. German PC. In the most systematic investigation of control in German, Stiebels (2007, 2015) argues that PC is unproductive and highly marked, if not altogether ungrammatical. As there is in fact a lot of disagreement concerning the acceptability of PC-sentences, we carried out an experimental investigation of German PC in order to answer the following questions: (i) Does German have PC? (ii) If so, does the type of matrix predicate play a role for the availability of PC (i.e., is there evidence for Landau's EC-PC split)? (iii) If German PC exists, does it pattern with Romance or English PC, and what can it tell us about the control relation involved in EC and PC?

The Experiment. 102 German native speakers completed two online questionnaires with 40 test sentences each (15 target items, 25 fillers). Test sentences were provided with a context (as the acceptability of PC depends on the contextual saliency of a plurality including the controller, see Landau 2000), and participants were asked to judge the sentences against the given context on a continuous 1-7 scale of acceptability. The target stimuli included two variables: (i) following the classification in Landau (2000), the matrix predicate was either an EC or a PC predicate (e.g.,

versuchen 'try' vs. *hoffen* 'hope'); (ii) the embedded predicate was a collective predicate that either licensed a comitative, or not ([±com]; e.g., *treffen* 'meet' vs. *kiss* 'küssen').

Results. We ran a Linear Mixed Effects-model with participants and items as random variables. There was a significant effect of control verb type ([$F(1,24.78)=13.8$, $p < 0.01$]), i.e. sentences with a PC predicate received higher ratings than ones with EC predicates. There was also a significant effect of embedded verb type ([$F(1,24.91)=40.4$, $p < 0.01$]), with higher ratings if the embedded predicate was [+com]. A Tukey test provided the results in (3) (categories not connected by the same letter are significantly different; (3) uses raw ratings; z-score normalized ratings did not show a difference in effect):

(3)

Category				**Least Sq Mean (higher numbers = higher acceptability)**
[PC; +com]	A			5.8616189
[EC; +com]	A	B		5.2327284
[PC; -com]		B		4.3785830
[EC; -com]			C	2.6247005

Interpretation. The general acceptability of the [EC; +com] and the [PC; -com] category clearly shows that in German, two mechanisms must be involved in the derivation of a PC reading. First, the fact that EC-predicates do give rise to a PC reading in German, but only if the embedded predicate licenses comitatives (compare the means for [EC; +com] with [EC;-com]), shows that a mechanism as the one in (2), which involves a covert comitative, must be available (= *Fake* PC; alternatively, the relevant mechanism could in some form rely on the semantic properties of comitative-licensing predicates, such as Dimiatridis' 2004 notion of irreducible symmetry). As far as we know, together with Sheehan's analysis of Romance PC this is the strongest positive evidence provided so far in favor of the existence of such a mechanism. Second, the acceptability of the [PC; -com] category, to which the comitative mechanism cannot apply, indicates that the mismatch in these cases must arise differently (=*True PC*). Our results do not allow a final conclusion as to whether *True* PC should be mediated syntactically or not, but the observed inter- and intra-speaker variation in this category supports Pearson's view (2013, 2015) that this alternative mechanism (*extension*) is a (marked) semantic operation. This is because the availability of extension depends on several unrelated factors such as the type of matrix predicate, the temporal and aspectual properties of the infinitival complement, etc. In detail, Pearson proposes that PC predicates are attitude predicates that involve quantification over world-time-individual triplets. The non-simultaneity of the matrix and the embedded event arises from the shifting of the embedded time coordinate, which is coupled with an extension of the individual coordinate, giving rise to the controller-controllee mismatch. The variation found in this category could thus either be captured if *extension* depends on even more factors than so far identified (see, e.g., White and Grano 2013 for a refinement of Pearson's analysis based on English data), or if not every speaker can shift both coordinates (cf. Pearson 2015). It is less clear how any of the existing syntactic approaches to PC (such as, e.g., the presence of an associative morpheme) could capture this variation in an insightful way, relying as they do on one factor exclusively. Furthermore, the significant difference in acceptability of the [EC; -com] and [PC;-com] category supports the existence of the EC-PC split in German. Finally, the fact that sentences of the [PC; +com]-category are rated best by all participants further supports our analysis as in these cases, both of the proposed mechanisms could in principle be employed to derive the relevant reading.

Conclusions. German (i) has *True* PC (with mean ratings of 4.3 on a 7 point scale), (ii) supports the EC-PC split, and (iii) provides evidence for the existence of two ways to derive a PC-reading: *fake PC* as in Romance, and *true PC* as in English. Our results tentatively support the view that the latter mechanism is purely semantic, thus allowing for a unified syntax of EC and PC.