PCC effects in Berlin German - Insights from Arc Pair Grammar

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1 Background

- In a number of languages, combinations of two object clitics are subject to a curious constraint, the *Person Case Constraint* (PCC) (Perlmutter 1971, Bonet 1991)
- In its strong form, the PCC states that in a combination of an <u>accusative</u> and a <u>dative</u> clitic, the accusative clitic has to be 3.Ps
 - (1) a. Tha mu ton stilune.

 FUT I.DAT he.ACC send.3.PL

 'They will send him to me.'
 - b. * Tha tu <u>me</u> stilune.

 FUT he.DAT l.ACC send.3.PL

 'They will send me to him.'
 - c. * Tha mu <u>se</u> stilune.

 FUT I.DAT you.ACC send.3.PL

 'They will send you to me.'

(Greek; Anagnostopoulou 2017)

- In its weak form, the PCC states that in a combination of an <u>accusative</u> and a **dative** clitic, the accusative clitic has to be 3.Ps, unless the dative clitic is 1./2.Ps
 - (2) a. **Me** '<u>I</u> va recomanar.

 I.DAT he.ACC AUX recommended 'He has recommended him to me'
 - b. * Me li va recomanar.

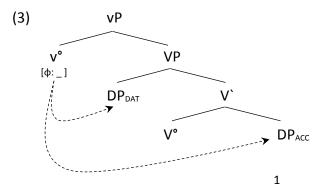
 I.ACC he.DAT AUX recommended.3.sg

'He recommended me to him'

c. <u>Te</u> m' ha venut. you.ACC I.DAT has sold 'He sold you to me.'

(Catalan; Bonet 1991)

- Standard analysis: PCC = intervention effect
 - PCC effects result from the Agree-relation between v° and the two clitics, and the order in which this relation is established (Anagnostopoulou 2003, Béjar & Řezáč 2003)
 - Since the order is determined by c-command, the hierarchical position of the clitics with respect to the probing v°-head is crucial



- Claims of this talk
 - o Hierarchical position of the two clitics is irrelevant
 - o The grammatical functions the clitics bear are relevant

2 Object clitics in North East Berlin German (NEBG)

• Similar to many German dialects (Fleischer 2017), Berlin German – and in particular the North East variety – possesses object clitics

(4)		1	2	3.м	3.N	3.F	3.REFL
	ACC	mar [mn]	dr [dn]	n	/alt [/a)+]	se [zə]	sè [ze]
	DAT	mr [me]	dr [de]	m	(e)t [(ə)t]	r [e]	

- The clitic status of these elements is supported by four properties
 - They cannot bear stress (5a)
 - They cannot be conjoined (5b)
 - They are banned from sentence initial position (5c)
 - They cannot be the complement of a preposition (5d)
 - (5) a. Peter mag $\underline{\mathbf{mr}} / *\underline{\mathbf{MR}} / vMICH$.

Peter likes I.acc

'Peter likes me.'

b. Peter mag *mr und dr / Vmich und dich.

Peter likes I.acc and you.acc

'Peter likes me and you.'

c. *Mr / Vmich mag Peter.

I.ACC likes Peter

'Peter likes me.'

d. Peter tanzt mit *mr /vmir.

Peter dances with I.DAT

'Peter dances with me.'

- Object clitics (tend to) occupy a fixed 2nd position (immediately after C°)
 - (6) a. Peter hat vmr heute *mr anjerufen.

Peter has I.Acc today I.Acc called

'Peter called me today.'

b. dass v<u>mr</u> Peter heute *<u>mr</u> anjerufen hat.

that I.Acc Peter today I.Acc called has

'that Peter called me today.'

- When two objects clitics combine, the order is strictly DO > IO
 - (7) a. Peter hat **t mr** jejehm.

Peter has it.ACC I.DAT given

b. * Peter hat **mr t** jejehm.

Peter has I.DAT it.ACC given

'Peter gave it to me.'

3 PCC effects in NEBG

3.1 Ditransitive verbs

- Similar to other languages with object clitics, NEBG shows PCC effects
- Interestingly, the choice of the verb determines the type of PCC effect:
 - One class of ditransitive verbs exhibits strong PCC effects (group 1 verbs)
 - Another class of ditransitive verbs exhibits weak PCC effects (group 2 verbs)
 - (8) Group 1: strong PCC effects
 - a. Die hat <u>n</u> mr jezeigt. she has he.ACC I.DAT showed 'She showed him to me.'
 - b. * Die hat mr m jezeigt.
 she has I.ACC he.DAT showed
 'She showed me to him.'
 - c. * Die hat <u>dr</u> mr jezeigt. she has you.acc I.DAT showed 'She showed you to me.'

other group 1 verbs: *empfehlen* 'to recommend', *vorstellen* 'to introduce', *anbieten* 'to offer', *versprechen* 'to promise'

- (9) Group 2: weak PCC effects
 - a. Die hat <u>n</u> mr ausjespannt. she has he.ACC I.DAT stolen 'She stole him from me.'
 - b. * Der hat mr m ausjespannt.
 he has I.ACC he.DAT stolen
 'He stole me from him.'
 - c. Die hat <u>dr</u> mr ausjespannt. she has you.ACC I.DAT stolen 'She stole you from me.'

other group 2 verbs: *gleistellen* 'to put on an equal footing', *gönnen* 'to grant', *jengüberstellen* 'to confront', *unterordnen* 'to subject, *vorziehen* 'to prefer'

 NB: similar effects have been observed for Spanish (Ormazabal & Romero 2007: 332-3), but tend to be ignored (Ormazabal & Romero 2007: 333, Řezáč 2008)

3.2 Causatives/ECM constructions

- Causatives/ECM-constructions: bare infinitives embedded under lassen 'to let/make' or verbs of perception like sehen 'to see' or hören 'to hear'
 - (10) a. Ik lass den Mann n Computer reparieren. [causatives]
 I let the.Acc man a.Acc computer repair
 'I make the man fix a computer.'
 - b. Ik seh den Mann n Computer reparieren. [ECM-construction]
 I see the.Acc man a.Acc computer repair
 'I see the man fix a computer.'

- The arguments of the bare infinitive become co-arguments of the matrix verb: the subject
 of the embedded infinitive receives accusative case, whereas the case marking properties
 of the other arguments are unaffected
- Importantly, causatives/ECM-constructions exhibit strong PCC effects such that the original subject is restricted to 3.PS

(11) Causatives

- a. Sie lässt n mr ohrfeigen. she lets he.acc I.acc cuff 'She makes him cuff me.'
- b. * Sie lässt mr n ohrfeigen.
 she lets I.ACC he.ACC cuff
 'She makes me cuff him.'
- c. * Sie lässt dr mr ohrfeigen. she lets you.ACC I.ACC cuff 'She makes you cuff me.'

(12) ECM-constructions

- a. Sie sieht n mr ohrfeigen. she sees he.Acc I.Acc cuff 'She sees him cuff me.'
- b. * Sie sieht mr n ohrfeigen.
 she sees I.ACC he.ACC cuff
 'She sees me cuff him.'
- c. * Sie sieht dr mr ohrfeigen. she sees you.acc I.acc cuff 'She sees you cuff me.'

3.3 Summary of the patterns

• The table in 13 summarizes the patterns of PCC effects found in NEBG

(13)		PCC
	Group 1 ditransitives	strong
	Group 2 ditransitives	weak
	Causatives/ECM-constructions	strong

4 Problems for the standard analysis

4.1 Ditransitive verbs

- Standard analysis
 - O The difference between weak and strong PCC effects is standardly assumed to reside in the v° -head: v° checks its ϕ -features in different orders (Cyclic vs. Multiple Agree, Anagnostopoulou 2005) or v° is sensitive to different types of ϕ -features (Nevins 2007)
 - \circ The two classes of verbs would then be headed by distinct v°-heads, one triggering Cyclic Agree and the other triggering Multiple Agree, or one being sensitive to distinct φ-features than the other

- Problem: the assignment of each verb to the corresponding v°-head is arbitrary
 - θ-role of the dative argument doesn't correlate
 - zeing 'to show' belongs to group 1 and assigns GOAL to its dative argument, vorziehen 'to prefer' belongs to group 2 and assigns BEN to its dative argument
 - BUT: *empfehlen* 'to recommend' and *ersparen* 'to spare' both assign BEN to their dative arguments, but *empfehlen* is a group 1 verb and *ersparen* is a group 2 verb
 - base order of the two arguments doesn't correlate
 - zeing 'to show' belongs to group 1 and has DAT > ACC base order, vorziehen 'to prefer' belongs to group 2 and has ACC > DAT order
 - BUT: empfehlen 'to recommend' and ersparen 'to spare' both have DAT > ACC base order, but empfehlen is a group 1 verb and ersparen is a group 2 verb
 - c-command relations don't differ
 - the c-command relations between the dative and the accusative argument could be different for verbs of group 1 than for verbs of group 2
 - BUT: for both groups, only the accusative argument can bind the dative argument, never the other way round

(14) Group 1

- a. Ik hab $\underline{\textbf{n}}_i$ $s\grave{\textbf{e}}_i$ jezeigt.
 - I have he.acc REFL.DAT shown
 - 'I showed him to himself.'
- b. * Ik hab \mathbf{m}_i $\underline{\mathbf{s}}\dot{\mathbf{e}}_i$ / $\underline{\mathbf{s}}\dot{\mathbf{e}}_i$ \mathbf{m}_i jezeigt.
 - I have he.dat refl.acc / refl.acc he.dat shown
 - 'I showed himself to him.'

(15) Group 2

- a. *Ik hab* **n**_i **sè**i gleijestellt.
 - I have he.acc REFL.DAT shown
 - 'I put him on an equal footing with himself.'
- b. * lk hab \mathbf{m}_i sè_i / sè_i \mathbf{m}_i qleijestellt.
 - I have he.dat refl.acc / refl.acc he.dat shown
 - 'I put himself on an equal footing with him.'

4.2 Causatives/ECM constructions

- Standard analysis
 - The restriction to 3.Ps of the accusative clitic is due to an intervention effect of the dative argument
 - This idea requires the dative argument to c-command the accusative argument
 - For languages like German where the accusative argument c-commands the dative argument, this order is either derived via movement or altered via movement in order to arrive at the correct c-command relation (Anagnostopoulou 2005)
- Problem: this solution doesn't generalize to c-command between subject and object
 - The restriction on 3.PS affects the original subject
 - The object could only intervene if it were structurally higher than the subject
 - To achieve this, (i) obligatory object-over-subject movement is needed (to get c-command), followed by (ii) obligatory subject-over-object movement (to get linear order)
 - But obligatory object-over-subject movement is otherwise unattested in NEBG, and movement step (ii) is only needed to mask the effects of (i)

5 Against a phonological solution

- To avoid the problems described in section 4, the constraints on clitic clusters in NEBG could be taken to not reflect proper PCC effects but a purely phonological constraint
 - (16) Phonological Constraint in NEBG (to be rejected)
 In a cluster with two clitics, the first clitic must have less segments than the second
- The constraint captures the alleged strong PCC effects
 - o n mr (8a) is fine, because n has less segments than mr
 - o mr m (8b) is bad because mr has more segments than m
- The constraint also captures the alleged weak PCC effects
 - The clitics in *dr mr* have an identical number of segments
 - Some verbs allow it (8c), others don't (9c)
- Despite its simplicity, the constraint doesn't generalize beyond the examples in (8-9)
 - First, in a clitic cluster with a subject and an object clitic, the first clitic can have more segments than the second clitic
 - (17) a. Jetz helfen wr m.

 now help we he.dat
 'Now we help him.'
 - b. Jetz sieht sə n. now sees she he.ACC 'Now she sees him.'
 - Second, even in clitic clusters with two object clitics, the first clitic can have more segments than the second clitic, namely in a cluster with a 3.F.ACC clitic and a 3.M.DAT clitic
 - (18) *Ik hab* **sə m** vorjestellt.

 I have she.ACC he.DAT introduced 'I introduced her to him.'
- To conclude, clitic clusters in NEBG are syntactically constrained and not phonologically

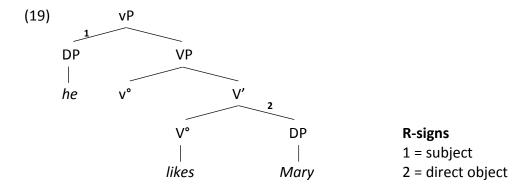
6 An Arc Pair Grammar analysis

- Overall idea
 - Object clitics form a cluster
 - Cluster formation is restricted by the grammatical functions the clitics bear
 - If the grammatical functions are too identical, the φ-features must differ

6.1 Background on Arc Pair Grammar

- Arc Pair Grammar (APG) is framework developed by Paul Postal and David Johnson (Johnson & Postal 1980)
- It is a successor of Relational Grammar (RG), developed by Paul Postal and David Perlmutter in the 70ies (Perlmutter 1983, Perlmutter & Rosen 1984, Postal & Joseph 1990)
- The core idea that distinguishes APG and Relational Grammar from Generativist frameworks is the recognition of grammatical functions as *theoretical primitives*

• The formal representation of grammatical functions is done via labeled edges



6.2 Background on objects in APG

- Traditionally, RG and APG recognized only two types of objects, direct objects and indirect objects
- However, Postal (1989, 1990) and in particular Postal (2010) argued that already in English
 at least five distinct types of objects need to be recognized, all of which differ syntactically
 from each other (Postal 2010: chapter 2)

(20) object relations in APG

2 = direct object

3 = indirect object

4 = subobject

6 = quasiobject

5 = semiobject

- The main criteria relevant for this analysis to distinguish object types from each other
 - o case marking
 - passivization

6.3 Towards an APG analysis for PCC effects: ditransitives

- Which verb belongs to which group is not arbitrary: the relevant factor that distinguishes these two verb groups is the passivizability of their arguments
 - (21) (i) Group 1 verbs allow passivization of their dative and their accusative object
 - (ii) Group 2 verbs only allow passivization of their accusative object

(22) Group 1

- a. *Ik krieg* <u>n</u> *jezeigt/empfohlen/vorjestellt*.

 I AUX.1.SG he.ACC shown/recommended/introduced 'One showed/recommended/introduced him to me.'
- b. Er wird mr jezeigt/empfohlen/vorjestellt. he AUX.3.SG I.DAT shown/recommended/introduced 'He was shown/recommended/introduced to me.'

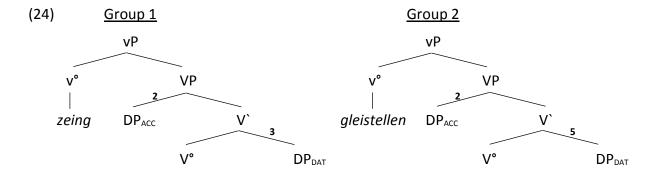
- (23) Group 2
 - a. * Ik bekam **dr** ausjespannt/gleijestellt.
 - I AUX.1.SG you.Acc stolen/equated

'One stole you from me/put you on an equal footing with me.'

- b. Du wurdest **mr** ausjespannt/gleijestellt.
 - I AUX.1.SG I.DAT stolen/equated

'You were stolen/put you on an equal footing with me.'

 As argued in Pankau (2013), passivizable accusative objects correspond to 2-objects, passivizable dative objects correspond to 3-objects, and unpassivizable dative objects correspond to 5-objects



- Based on (24), I suggest the following preliminary analysis for PCC effects
 - (25) Relational Analysis for PCC effects (first version)
 - (i) If a clitic cluster contains two object clitics based on a 2- and 3-object (group 1), then the 2-object is 3.Ps (≈ strong PCC)
 - (ii) If a clitic cluster contains two object clitics based on a 2- and 5-object (group 2), then 2-object is 3.Ps unless the 5-object is 1/2.Ps(≈ weak PCC)

6.4 An APG analysis for PCC effects

- The analysis in (25) has limited scope: it affects ditransitives only and cannot be extended towards causatives/ECM-constructions
 - (26) a. causatives

Ik lass den Mann n Computer reparieren.

I let the.acc man a.acc computer repair

'I make the man fix a computer.'

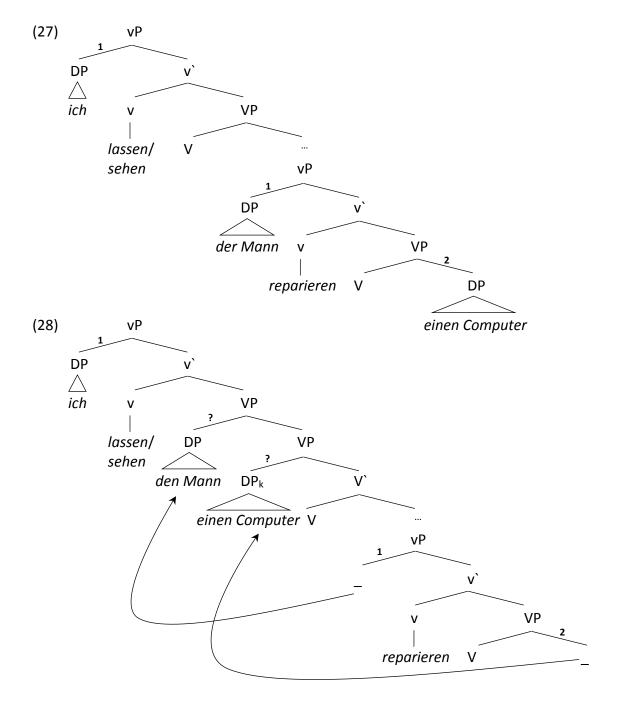
b. ECM (= Acl, accusativus cum infinitivo)

Ik seh den Mann n Computer reparieren.

I see the.acc man a.acc computer repair

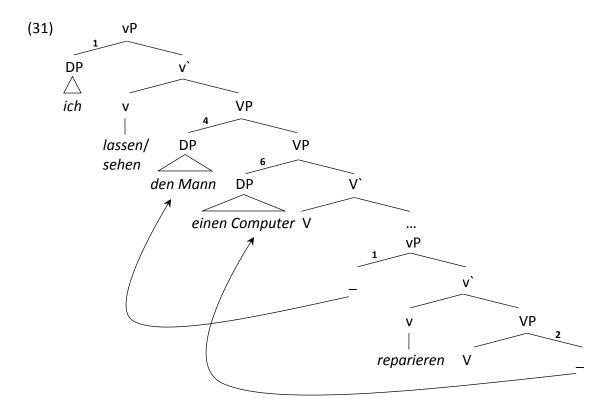
'I see the man fix a computer.'

- Causatives/ECM-constructions constructions feature the same structure (27-28)
 - a main clause verb embeds a clause with a bare infinitive plus its arguments
 - o the arguments of the infinitive become co-arguments of the main clause verb
 - the subject of the embedded verb receives accusative case, whereas the case marking properties of the other arguments are unaffected



- The original subject and the original direct object of the embedded infinitive receive accusative case in the matrix clause
- The simple analysis: both are derived direct objects of the matrix verb, that is, 2-objects
- But that cannot be correct: whereas true direct objects can be passivized, neither of the two derived accusative marked objects allows passivization in either causatives or ECM constructions (Höhle 1978, Bausewein 1989)
 - (29) a. * Der Mann wurde n Computer repaireren lassen/sehen.
 the.NOM man AUX.3.sg a.Acc computer repair let/see
 'The man was let/seen fix a computer.'
 - b. * N Computer wurde den Mann reparieren lassen/sehen.
 a.Nom computer AUX.3.SG the.Acc man repair let/see
 'A computer was let/seen fix the man.'

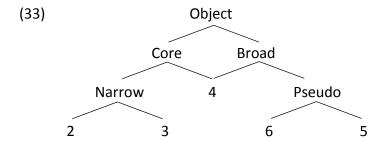
- Crucially, this is irreducible to the passivizability of these objects in underived position
 - (30) V Computer wurde repariert. a.Nom computer AUX.3.sg repaired 'A computer was fixed.'
- NB: in fact, this is part of a bigger generalization: derived objects in causatives/ECM constructions cannot be passivized, irrespective of their passivization properties as underived objects
- Accusative marked objects that resist passivization come in two flavors: as *subobjects*, represented the R-sign '4', and as *quasiobjects*, represented by the R-sign '6'
- For causative/ECM-constructions, I assume that the original subject becomes a subobject of the matrix clause, whereas the original direct object becomes a quasi-object (31)



The table in 32 summarizes the patterns of PCC effects found in NEBG

(32)		PCC	objects	3PS restriction affects
	Group 1 ditransitives	strong	23	2
	Group 2 ditransitives		25	2
	Causatives/ECM-constructions	strong	46	4

- What one observes is that (i) the pairs 2-3 and 4-6 share the same pattern of PCC, and that (ii) the restriction on 3.Ps affects the 2-object and the 4-object, respectively
- In order to see what the pairs 2-3 and 4-6 have in common, consider the taxonomy of object relations (Pankau 2016, modified after Postal 2010: 72)



- What unites the pairs 2-3 and 4-6 is that both members belong to the same set of objects:
 2 and 3 are both core objects, and 4 and 6 are both broad objects
- The pair 2-5, however, is different: 2 is a core object, 5 is a broad object
- The relation object agree can then be defined

(34) Object Agree

For all object DPs A and B, A and B object agree, if

- (i) A and B are core objects, or
- (ii) A and B are broad objects
- With respect to why the restriction affects the 2-object in the pairs 2-3/2-5, and the 4-object in the pair 4-6, consider the hierarchy of grammatical relations

(35) GR-hierarchy
$$1 > 2 > 3 > 4 > 6 > 5 > \text{ oblique}$$

• Given this hierarchy, the relation *outrank* can be defined

(36) <u>Outrank</u>

A outranks B if A is to the left of B on the GR-hierarchy

Based on this, I suggest the following analysis

(37) Relational Analysis for PCC effects (final version)

- (i) If a clitic cluster contains two object-agreeing clitics, then the outranking clitic is 3.PS
- (ii) If a clitic cluster contains two non-object-agreeing clitics, then the outranking clitic is 3.Ps, unless the outranked clitic is 1./2.Ps

(38) Group 1: strong PPC effects

a. Die hat
$$\underline{\mathbf{n}}$$
 mr jezeigt. $\underline{\mathbf{2-obj}} = 3.PS$ $\mathbf{3-obj} = 1.PS$ $\sqrt{37(i)}$ she has he.acc I.DAT showed 'She showed him to me.'

(39) Group 2: weak PCC effects Die hat **n** a. mr ausjespannt. **2-OBJ** = 3.PS **5-OBJ** = 1.PS $\sqrt{37}$ (ii) she has he.acc I.dat stolen 'She stole him from me.' b. * Der hat mr m ausjespannt. 2-obj = 1.PS5-obj = 3.PS* 37(ii) he has I.acc he.dat stolen 'He stole me from him.' Die hat **dr mr** ausjespannt. **2-OBJ** = 2.PS **5-OBJ** = 1.PS√ 37(ii) c. she has you.acc I.DAT stolen 'She stole you from me.' (40) Causatives Sie lässt <u>n</u> a. mr ohrfeigen. 4-obj = 3.PS6-obj = 1.PS√ 37(i) she lets he.acc I.acc cuff 'She makes him cuff me.' b. * Sie lässt <u>mr</u> n ohrfeigen. 4-obj = 1.PS6-obj = 3.PS* 37(i) she lets I.acc he.acc cuff 'She makes me cuff him.' c. * Sie lässt dr mr ohrfeigen. 4-oBJ = 2.PS6-obj = 1.PS* 37(i) she lets you.acc I.acc cuff 'She makes you cuff me.' (41) ECM-constructions Sie sieht **n** ohrfeigen. 4-obj = 3.PSa. mr 6-obj = 1.PS√ 37(i) she sees he.acc I.acc cuff 'She sees him cuff me.' b. * Sie sieht mr n ohrfeigen. 4-obj = 1.PS6-obj = 3.PS* 37(i) she sees I.acc he.acc cuff 'She sees me cuff him.' **4-obj** = **2**.PS c. * Sie sieht dr mr ohrfeigen. 6-obj = 1.PS* 37(i) she sees you.acc I.acc cuff 'She sees you cuff me.'

7 Conclusions

- The behavior of the two groups of ditransitives in NEBG shows that configurational aspects are irrelevant for PCC effects
- The behavior of causative/ECM-constructions in NEBG show that case in itself is irrelevant for PCC effects
- What eventually matters is a more abstract property of the clitics, namely the grammatical relations they bear
- The APG framework provides a simple analysis for this because it recognizes grammatical functions as primitives and it recognizes several distinct object functions

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