LOCATING VARIATION IN PERSON RESTRICTIONS: WHEN THEY ARISE AND HOW TO GET OUT OF THEM

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Introduction

- Topic: Person based restrictions on combinations of internal argument clitics (Person Case Constraint)
- Two points of variation:

(1) *Granularity*: Languages differ on how finely they distinguish between person categories

(2) *Place of Repair*: Which argument is changed to avoid the person restrictions (DO vs. IO)?

- Granularity:
  - Two existing proposals attribute the variation to parameterization of the operation AGREE (Anagnostopoulou 2005, Nevins 2007).
  - Proposal: The variation in granularity can be derived from different specifications of probes rather than the syntactic operations, similar to proposals about restrictions between subjects and objects (Béjar 2003, Řezáč 2003, Béjar and Řezáč 2003, 2009).
- Place of Repair:
  - Existing proposals invoke Last Resort mechanisms (Řezáč 2007, 2011) that are restricted by underlying structure.
  - Some alternative realizations of banned clitic combinations are not 'last resort repairs,' but derivational blocking.
  - Which argument undergoes alternative realization is a function of underlying structure.

1 Two Types of Variation in Person Restrictions

1.1 Person Based Restriction on Cliticization

- Subject of the study: restrictions on combinations of two internal argument clitics.
  - The domain of the *Person Case Constraint* (PCC) as formulated in Bonet (1991, 1994): a restrictions on marked person direct objects in the presence of another internal argument.

(3) *Person Case Constraint* (PCC):
In $[_{\alpha}$ AGR $\ldots$DP$_1$ $\ldots$DP$_2$ $\ldots]$, where α includes no other person AGR, DP$_2$ cannot have a marked person feature (1st/2nd, sometimes 3rd animate).
(adapted[1] from Béjar and Řezáč 2009:46)

  - Today: Double object constructions and causatives.
  - The PCC is a family of restrictions (for an overview see Nevins 2007) that ban different combinations of person on the two internal arguments.
- The *Ultrastrong PCC* (U-PCC) (named by Nevins 2007):

(4) *The Ultrastrong Person-Case Constraint:*
Two internal arguments x and y, where x c-commands y, cliticize (in their normal morphological form) if
  a. x has a more local person specification than y,
  b. where: $1 \underset{\text{local}}{>} 2 \underset{\text{local}}{>} 3$

[1] Béjar and Řezáč's definition states that DP$_1$ is oblique. This is not a necessary condition for the PCC as argued by Ormazabal and Romero (2007) and shown by PCC between two accusatives in Classical Arabic.

  - Reported for
    - Classical Arabic: Sibawayh (1881, for translation see Jahn 1900a).
    - Catalan: Bonet (1991:179, 2002:953).[2]
    - Spanish: Perlmutter (1971:26).

- Example: U-PCC in Classical Arabic.
  - Data: Sibawayh (1881), Wright (1874a:104), Howell (1894:540), Reckendorf (1895:394), Brockelmann (1960:59), Fassi Fehri (1988, 1993).
  - Causatives with two accusatives (Walkow t.a.a).
  - Data in (5) for *ʔaʕtˤaː*, 'give' (causative of *receive*).
    - Both pronouns cliticize when causee/recipient $\overset{>}{_{\text{local}}}$ DO: (5).
    - Clitic combinations are impossible when recipient $\overset{\not>}{_{\text{local}}}$ DO: (6).
  - Alternative realization: When cliticization is impossible, DO is realized by a free pronoun in accusative case, (6).

Table 1 gives an overview of possible and impossible person combinations.

(5) *Possible clitic combinations*: (U-PCC Classical Arabic)

a. *ʔaʕtˤaː* **=niː =ka**
gave.3SG=1SG=2SG.M
'He gave me you'

b. *ʔaʕtˤaː* **=niː =hɪ**
gave.3SG=1SG=3SG.M
'He gave me him/it'

c. *ʔaʕtˤaː* **=ka =hu**
gave.3SG=2SG=3SG.M
'He gave you him/it' (Sibawayh 1881:336, Wright 1874a:103)

[2]The data here are from Central Catalan, but similar data are found in other varieties.

	DO:		
Causee↓	1:	2:	3:
1:	n/a	✓: (5a)	✓: (5b)
2:	✗: (6a)	n/a	✓: (5c)
3:	✗: (6b)	✗: (6c)	%[3]

Table 1: U-PCC Classical Arabic: Possible and impossible clitic combinations.

(6) *Banned clitic combinations*: (U-PCC Classical Arabic)

a. *ʔaʕtˤaː* **=ka** {*=**niː** / **ʔɪjːaː=ja**}
gave.3SG=2SG.M{ =1SG/ ACC=1SG}
'He gave me to you' (Sibawayh 1881:335/6)

b. *ʔaʕtˤaː* **=huː** {*=**niː** / **ʔɪjːaː=ja**}
gave.3SG=3SG.M{ =1SG/ ACC=1SG}
'He gave me to him' (Sibawayh 1881:335/6, Wright 1874a:104)

c. *ʔaʕtˤaː* **=huː** {*=**ka** / **ʔɪjːaː=ka**}
gave.3SG=3SG.M{ =2SG.M/ ACC=2SG.M}
'He gave him you' (Sibawayh 1881:336, de Sacy 1905:378)

- Two notes on (4):
  - (4) subsumes restrictions on combinations of third person pronouns, see p.3
  - *in their normal morphological form*: See discussion of Catalan below.

1.2 Variation in the PCC: Strong vs Ultrastong PCC

- The *Strong PCC* (S-PCC):
  - Bans any combination of local person pronouns
  - *1-IO+2-DO (in addition to *2-IO+1-DO).

[3]Some combinations of third person pronouns are possible, but even possible ones are typically avoided (Sibawayh 1881:337).

(7) * ʔaʕtˤaː **=niː** { *=**ka** / **ʔɪjːaːˑ=ka** } (S-PCC Classical Arabic)
gave.3SG=1SG{ =2SG.M/ ACC=2SG.M}
'He gave me you' (Jahn 1900b:61)

(8) *Strong Person Case Constraint:*
Two internal arguments x and y, where x c-commands y, cliticize (in their normal morphological) form if

a. x has a more local person specification than y,

b. where: {1,2} $\underset{\text{local}}{>}$ 3

- The three languages that have speakers with U-PCC also have speakers with S-PCC.
  - Classical Arabic: Jahn (1900b:61).
  - Catalan: Bonet (1991).
  - Spanish: Bonet (1991).
- For an overview of other patterns of PCC: Nevins (2007).
- Restrictions on combinations of third person pronouns:
  - Often considered a separate restriction from PCC (recently Nevins 2007).
  - I have argued elsewhere that PCC and certain restrictions on combinations of third person pronouns are a unified syntactic phenomenon (Walkow 2011, 2012a,b, t.a.b):
    - Restrictions on 3-3-combinations use same alternative realizations as PCC in some languages.
    - Choice of alternative strategies shows similar patterns of sensitivities to features of the higher argument (Walkow 2012a).
    - Show the same distribution as syntactic restrictions on number (Walkow 2012a,b).
    - Restrictions on 3-3-combinations follow naturally from (4).

  All three languages with U-PCC also have restrictions on 3-3.

	[–PART]	[+PART]
[–AUTH]	3:[–AUTH,–PART]	2:[–AUTH,+PART]
[+AUTH]	*[+AUTH,–PART]	1:[+AUTH,+PART]

Table 2: Person categories defined by privative features (Nevins 2007).

Two Types of Previous Analyses.

- Parameterizing *Multiple* AGREE (Nevins 2007)[4].
  - *Multiple* AGREE: Probe can AGREE with both goals at the same time.
  - Operation *Multiple* AGREE is parameterized along two dimensions:
    - Locality conditions
    - Valuation conditions (not discussed here)
  - Locality conditions are parameterized (*relativized* in the terms of Nevins 2007) to refer to *all values*, *only contrastive values*, *only marked values* of person features.
    - Pronouns are classified by [±PART] and [±AUTH], Table 2.
    - Markedness: '+' values for [PART/AUTH]
  - Locality condition on Multiple AGREE:

(9) *Contiguous* AGREE: For a relativization R of a feature F on a Probe $\mathbb{P}$, and x ∈ Domain(R(F)),

$\neg\exists y$, such that $y > x$ and $\mathbb{P} > y$ and y [not element] Domain(R(F))

"There can be no interveners between $\mathbb{P}$ and x that are not in the domain of relativization that includes x." (Nevins 2007:291)

- Example: The U-PCC.

(10) *Contiguous* AGREE *for U-PCC*:
For the value {+} of the features [±PART] and [±AUTH] on a Probe $\mathbb{P}$,

a. If x is [+AUTH], $\neg\exists y$, such that $y > x$ and $\mathbb{P} > y$ and y is not [+AUTH]

[4] Anagnostopoulou (2005) presents an analysis of S-PCC vs weak PCC based on whether Multiple Agree is available.

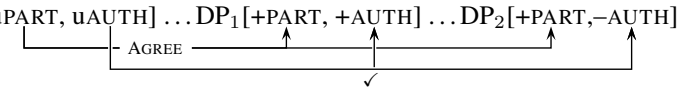
and

b. If x is [+PART], $\neg\exists y$, such that $y > x$ and $\mathbb{P} > y$ and y is not [+PART]

There can be no interveners between $\mathbb{P}$ *and* x *that are not valued* {+} *for whichever of* [+PART] *and* [+AUTH] x *has.*

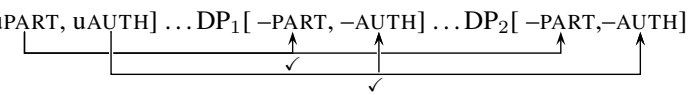
– Deriving the U-PCC:

(11) a. ✓1-IO+2-DO: (10) satisfied



b. *2-IO+1-DO: Violates (10a)

c. ✓3-IO+3-DO: (10) vacuously satisfied if no marked features



– Combinations of Contiguous AGREE for different features and restrictions on valuation predict four attested patterns of PCC

- Second line of ananlysis: *Cyclic* AGREE (Béjar 2003, Řezáč 2003, Béjar and Řezáč 2009).
  - Uses a system of privative person features.
  - The probe AGREES with one argument at a time, each AGREE relation deactivates features on the probe.
  - Whether both goals can be AGREED with depends on whether the probe has features left after the first AGREE that the second argument can value.
  - Person restrictions arise from
    - The feature specification of the probe
      plus
    - The derivational interaction of probing and structure building
- Proposal: Cyclic AGREE also accounts for some variation in PCC.

1.3 Variation in Alternative Realizations

- Central and Eastern Catalan: Same restrictions, different alternative strategy.
  - PCC arises in between dative and accusative pronouns in double object constructions (Bonet 1991, 1994):
  - There are U-PCC and S-PCC speakers:

(12) *S-PCC and U-PCC in Barceloní Catalan*:

Te' m *van recomanar* *per la feina*	Strong PCC:	Ultrastrong PCC:
2 =1 recommended.3PL for the job		
a. 'They recommended me to you [. . .]'	*	*
b. 'They recommended you to me [. . .]'	*	✓

(Bonet 1991:179, Bonet 2002:953)

– All banned combinations can be realized by changing the properties of IO.

(13) *IO* $\not\succ_{local}$ *DO and IO = 2: free IO.*
M' ha *recomanat* ***a tu*** *per a la feina la subdirectora*
1 =has recommended *a* 2 for the job the deputy director
'The deputy director has recommended me to you for the job'

– When IO = 3, IO is realized as a bare dative marker without third person morphology (/l/, Bonet 1991, 1994, 1995, 2008)

(14) *IO* $\not\succ_{local}$ *DO and IO=3: IO surfaces without person marking.*

a. *PCC*:
M(e) {***li** / **/i/*} *ha recomanat la senyora Bofill*
1 ={3.DAT/ DAT} has recommended the Mrs. Bofill
'Mrs Bofill has recommended me to him/her.'
(composite of Bonet 1994:33, 48)

b. *Combinations of third person pronouns*:
[. . .] [***l*** = {***li** / **/i/*}] *donaré demà*
[. . .] 3={3.DAT/ DAT} will.give(1.st) tomorrow
'I will give him it tomorrow.'
(composit of Bonet 1995:610 and 639)

- The /i/ in (14a) is a dative not a locative:
  - Catalan has a locative/directional clitic /i/, (15a), that pronominalizes a PP.
  - Řezáč (2007) suggests that /i/ in (14a) might be a pronominalized PP, rather than a dative.
  - Quantifier floating shows that /i/ in PCC contexts is not a locative:
    - When locative /i/ floats *tots*, 'all,' it has to appear with *a*.
    - When /i/ floats *tots* in PCC contexts, *a* does not appear.

(15) *Quantifier float with locative vs PPC-/i/*:

a. [*Als pobles de la Marina Baixa*]$_i$,
to.the villages of the Marina Baixa

t' ***/i/***$_i$ *acompanyaré* *(***a***) ***tots***$_i$.
2SG=LOC will.accompany.1SG to all

'I will accompany you to all the villages of the Marina Baixa'

b. [*Als nens*]$_i$,
to.the.PL children

en Joan t' ***/i/***$_i$ *recomanara* (***a***) ***tots***$_i$
the Joan 2SG=DAT will recommend to all

'The children, Joan will recommend you to them all'

- **Observation:** Central Catalan and Classical Arabic have the same type of person restriction, but they respond to them differently.
- Grammar controls alternate realization:
  - Řezáč (2007): True *repair strategies* for person restrictions are not freely available otherwise, setting them apart from circumlocutions.
    - Catalan: /i/ can otherwise only be used with inanimate datives (Rigau 1978, 1982).
    - Classical Arabic: Cliticization is obligatory and free pronouns are restricted to particular environments (e.g. Howell 1894).
  - Only certain available alternate strategies are used in person effect environments:
    - Catalan:
      - Combinations of 2-IO+1-DO like (13) can alternatively be realized by using a clitic IO and a free form of DO (Bonet 1991:205).
      - DO repairs are in principle possible, but blocked when IO is 3.
    - Classical Arabic:
      - Some transfer verbs allow the recipient to be introduced by a PP (on *ʔarsala*, 'send,' see Lane 1867:1081), which has been argued to happen in PCC repairs in French (Postal 1990, Řezáč 2007).
      - Direct objects of some causatives can be introduced as PPs (see Lane 1874:2084 on *ʔaʕtˁaː*, 'give,' in (5/6)).

    Changing realization of other argument is possible in Catalan and Classical Arabic, but not used to avoid PCC.
- Question: How is a particular repair strategy is chosen?

Previous Analyses.

- Alternative Realizations as *Last Resort* phenomena:
  - Structures used in alternative realizations are limited to person effect contexts
  - Sometinmes the structures are rather unusual (see Georgian data in Bonet 1994, Řezáč 2011)
- *Last Resort Repair*-Analyses (Řezáč 2007, 2011): Simplifying wildly
  - Derivation runs its course until something goes wrong
  - An additional process adds a probe:

(16) ℜ(for Agree/Case): A uninterpretable feature (probe) may enter the numeration on a potential Agree/Case locus if needed for Case-licensing. (Řezáč 2011)

  - Repairs are constrained by availability of *a potential Agree/Case locus*.
  - Example: Strong form for IO like Catalan (13)
    - Datives are structurally deficient PPs, aka potential case agreement loci
    - ℜ adds a probe to the dative

  - Limitations:
    - ∗ Řezáč (2011): There is no plausible case agreement locus that could derive direct object repairs in PCC.
    - ∗ PCC-/i/ in Catalan does not behave like a PP, (15b).

- Proposal:
  - Smaller Scope: Alternative realizations where argument appears in its normal Case.
  - Some alternative realizations are derivational blocking:
    - ∗ Last-Resort-flavor of alternative realizations does not arise from an additional process that normally doesn't apply.
    - ∗ They arise because a process that normally does apply, person agreement, has not applied.
  - Which argument is affected is a function of different underlying structures

2 Person Restrictions are Agreement Restrictions

- Syntactic analyses of person restrictions:
  - Restrictions arise when one agreement controller (probe) has to agree with two arguments (goals) (i.a. Anagnostopoulou 2003, 2005, Béjar 2003, Béjar and Řezáč 2003, 2009, Adger and Harbour 2007).
  - Adapted[5] statement of the PCC in structural terms from (Béjar and Řezáč 2009:46), (3).

(3) *Person Case Constraint* (PCC):
In $[_{\alpha}$ AGR $\dots$ DP$_1$ $\dots$ DP$_2$ $\dots]$, where α includes no other person AGR, DP$_2$ cannot have a marked person feature (1st/2nd, sometimes 3rd animate).

  - When both arguments AGREE, both cliticize and appear in their normal morphological form.

- *Cyclic* AGREE (Béjar 2003, Řezáč 2003, Béjar and Řezáč 2003, 2009).
  - Uses a system of privative person features.
  - The probe AGREES with one argument at a time, each AGREE relation deactivates features on the probe.
  - Whether both goals can be AGREED with depends on whether the probe has features left after the first AGREE that the second argument can value.

(17)

Step 1:		Step 2:
AGR[uϕ,uψ] $\dots$ DP$_1$[ϕ_i]	$\Longrightarrow$	AGR[ϕ_i,uψ] $\dots\dots$ DP$_2$[ψ_j]
AGREE 1		AGREE 2

  - Variation lies in the feature specification of the probe (see below).

Béjar (2003) and Béjar and Řezáč (2009) present analyses of variation in interactions between subjects and objects, but that system has not been used for variation in the PCC.

- Person licensing and ungrammaticality:

(18) *Person Licensing Condition* (PLC):
An interpretable 1st/2nd person feature must be licensed by entering into an agree relation with a functional category. (Béjar and Řezáč 2003:53)

  - Failure of local person licensing leads to syntactic crash, unless there is another head that can license the features that cannot be licensed by AGR.
  - Béjar and Řezáč (2009): Goals with multiple local person features (see below) are licensed if at least one of them AGREES.
  - Third person features are outside of (18). Walkow (2011, 2012b, t.a.b) argues that they fail to be realized morphologically when they fail to AGREE.
  - Preminger (2010, 2011): failure of a probe to value its features does not cause a crash.

3 Granularity: Articulated Person Probes

- The syntactic representation of person: Béjar (2000, 2003), Béjar and Řezáč (2009).

[5] Béjar and Řezáč's definition states that DP$_1$ is oblique. This is not a necessary condition for the PCC as argued by Ormazabal and Romero (2007) and shown by PCC between two accusatives in Classical Arabic.

– Harley and Ritter (2002):
  * Pronoun inventories across languages reveal implicational relationships between person categories.
  * Modeled by morphological structures where more marked person categories ('1'/'2') subsume the structure of less marked ones ('3').
– Béjar and Řezáč: Person categories are represented syntactically as sets of privative features where more marked person categories subsume less marked ones, Table 3.

Person:	3^{rd}	2^{nd}	1^{st}
Feature Specification:	$[\pi]$	$[\pi]$ [PART(ICIPANT)]	$[\pi]$ [PART(ICIPANT)] [SPEA(KER)]

Table 3: Person categories as bundles of privative features (Béjar and Řezáč 2009:42).

– The 'more local' part of (4/8) can be stated as subset relations between sets of features:

(19) $X \underset{\text{local}}{\geq} Y$, if X's features are a superset of Y's, written as $\Phi(X) \supset \Phi(Y)$.

(20) *The Ultrastrong Person Case Constraint*:
Two internal arguments x and y, where x c-commands y, cliticize (in their normal morphological) form if

a. $\Phi(x) \supset \Phi(y)$

b. where $\Phi(1) \supset \Phi(2) \supset \Phi(3)$

- Combining Cyclic AGREE, Table 3 and (20):
  – A probe can AGREE with two goals, if
    * The first goal has fewer features than the second, and
    * The probe has active features left after AGREE with the first goal.
  – (20a) is a statement about order of probing: The lower arguments is probed before the higher one.

In general: If DO $\underset{\text{local}}{\geq}$ causee/Φ(DO)$\supseteq$ Φ(causee), v^{ag}'s probe has no active features after agreement with DO, that the causee can value.

- Granularity: The specification of the probe (Béjar 2003, Béjar and Řezáč 2009).
  – Person probes are have unvalued versions of the features in Table 3.
  – The features can AGREE independently of one another.
  – Granularity of person hierarchy effects is determined by how many of the features in Table 3 are present on the probe (Béjar 2003, Béjar and Řezáč 2009):
    * $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \\ u\text{ADDR} \end{smallmatrix}\right]$: Agreement distinguishes between 1,2 and 3.
    Example: Interactions of subject and object agreement in Nishnaabemwin.
    * $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$: 1 and 2 are treated the same and different from 3.
    Example: Interactions of subject and object agreement in Basque and Georgian.
    * $[u\pi]$: All person categories are treated the same.
    Example: Restrictions on nominative objects in Icelandic.[6]

- Proposal: The difference between S-PCC and U-PCC is a difference in specification of the probe
  – U-PCC: 1 $\underset{\text{local}}{>}$ 2 $\underset{\text{local}}{>}$ 3 = $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$
  – S-PCC: {1,2} $\underset{\text{local}}{>}$ 3 = $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$

  The statements in (4b)/(20b) and (8b) are observations about the specification of the probe.

- Demonstration: The difference between S-PCC and U-PCC:

	1-IO+2-DO	
U-PCC:	✓	(5a) and (12)
S-PCC:	*	(7) and (12)

[6] Béjar and Řezáč assume in addition that third person objects in Icelandic have no person features at all, so that 3-objects have a subset of the person specifications of all other arguments.

– U-PCC: After $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ AGREES with a second person DO $\left[\begin{smallmatrix} \pi \\ \text{PART} \end{smallmatrix}\right]$, it has an active [$u$SPEA]-feature left that IO can value.

– S-PCC: After $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ AGREES with a second person DO $\left[\begin{smallmatrix} \pi \\ \text{PART} \end{smallmatrix}\right]$, it has no active features left. AGREE with IO is impossible.

This contrast is illustrated below in Table 5 vs. Table 11.

- The difference between S-PCC and U-PCC follows from different feature specifications of the probe in the same way as different granularities of restrictions on subjects and objects.

4 Alternative Realization and Structure

- Original description of PCC:

(3) *Person Case Constraint* (PCC):
In [$_\alpha$ AGR ... DP_1 ... DP_2 ...], where α includes no other person AGR, DP_2 cannot have a marked person feature (1st/2nd, sometimes 3rd animate).
(adapted from Béjar and Řezáč 2009:46)

– (3): Probe AGREES with IO before DO.

– (4b)/(20b) and (8b): Probe AGREES with DO before IO.

How do the two come together?

- Two ways for the probe to access to the lower argument first:

– Movement or the lower argument before AGR is merged:

* The structure in (3) changes to: [AGR [DO [IO...
* Catalan

– Cyclic Expansion (Řezáč 2003, Béjar and Řezáč 2009):

* Probe is between the two arguments: [IO [AGR [DO ...
* Classical Arabic

The different underlying structures affect which argument is affected by alternative realization

- U-PCC vs S-PCC Examples:

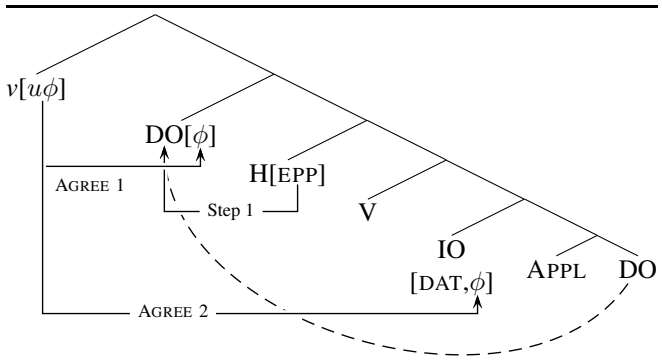


Table 4: Syntactic structure of clitic restrictions in Catalan.

– U-PCC: Catalan, §4.1

– S-PCC: Classical Arabic, §4.2

4.1 Catalan: Argument Movement derives Repairs on IO

- Examples here are for U-PCC Catalan. Probe: [π,PART,SPEA].

- Syntax: Table 4 (Walkow 2012a,b).

– Underlyingly IO-DO with low applicative structure (proposed for English and Spanish respectively in Pylkkänen 2002, Cuervo 2003).

– There is movement of DO above IO (Walkow 2012a,b). Visible in

* DO-IO order between 3-clitics.
* DO-IO order between non-clitic arguments (similarly for Spanish Cuervo 2003).

– *v* is the head relevant for person licensing.

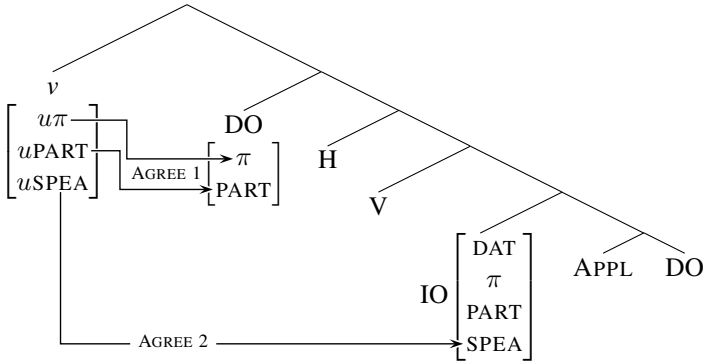
This movement places DO closer to *v* and predicts failure of person licensing on IO (for movement as a way of evading person effects: Řezáč 2008).

- Deriving clitic combinations where IO $\underset{\text{local}}{>}$ DO/Φ(IO)$\supset$ Φ(DO): Table 5.

– Example: 1-IO+2-DO.

– DO has moved above IO.

– AGREE 1:



(12) ***Te' m*** *van recomanar per la feina*
2 =1 recommended.3PL for the job
b. 'They recommended you to me'

Table 5: Convergent derivation for 1-IO+2-DO in Ultrastrong PCC Catalan.

- ∗ *v*'s [*u*π]- and [*u*PART]-features AGREE with DO.
- ∗ [*u*SPEA] remains active.

– AGREE 2 with IO: *v*'s [*u*SPEA] AGREES with IO.

– Both DO and IO meet the PLC, (18), and cliticize in their normal morphological form.

– Clitic order: Table 5 derives the observed DO-IO order. However, the order of local person clitics is determined templatically in Central Catalan (Bonet 1991, 1995, 2002). The correlation between the order derived by the syntax in Table 5 and the observed order is accidental.

The derivation works the same for all other combinations where IO $\geq_{\text{local}}$ DO/Φ(IO)⊃ Φ(DO). After AGREE with DO, the probe has active features left that IO can value.

- Deriving ungrammaticality for 2-IO+1-DO: Table 6.

– AGREE 1:

- ∗ All of *v*'s φ-features AGREE with DO.
- ∗ *v*'s probe becomes inactive.

– ✗AGREE with IO: IO's PART feature fails to AGREE, the derivation fails the PLC, (18), and crashes.

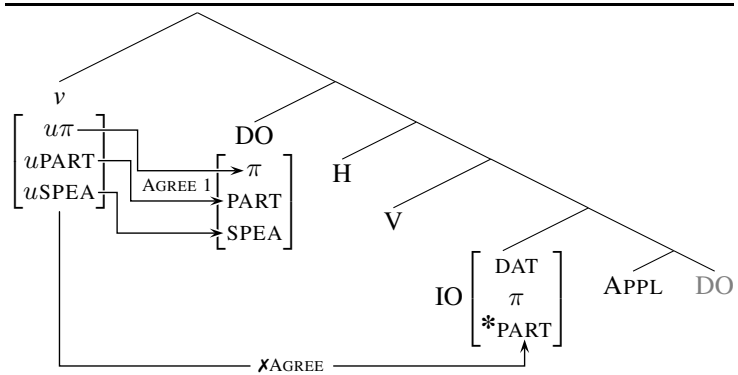


Table 6: Non-convergent derivation for 2-IO+1-DO in Ultrastrong PCC Catalan.

- Deriving absence of person morphology on IO in 3-IO+DO: Table 7.

– AGREE 1:

- ∗ Depending on whether DO is 1, 2 or 3, *v*'s probe values some subset of its φ-features on DO.
- ∗ Since all person categories are specified for [π], *v* will always value its [π]-feature on DO.

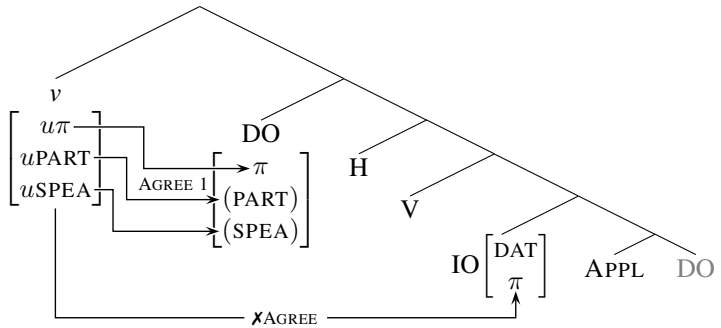
– ✗AGREE with IO:

- ∗ Since IO has only [π], and any DO deactivates *v*'s [π], IO can never license it's [π]-feature.
- ∗ [π] is not subject to the PLC, hence failure to license [π] does not cause a crash.
- ∗ IOs that fail to license the syntactic feature for third person surface without third person morphology (Walkow 2011, 2012b).
- ∗ The syntactic structure derives the fact that in combinations of third person pronouns in Catalan the one with person marking precedes the one without it (Walkow 2012b).

- Deriving repairs on IO:

– The syntactic structure with movement of DO above IO determines that person licensing fails on IO.

– Attributing the absence of person morphology to failure of syntactic licensing of [π] on IO derives the common form of IO in both PCC-combinations and 3-3-combinations.



(14) {***M(e)*** / ***t(e)*** / ***l*** } {****li*** / ***/i/*** /} *ha* *recomanat* [...]
{1 / 2 / 3ACC}={3.DAT / DAT} has recommended
'Mrs Bofill has recommended {me, you, him} to him/her.'

Table 7: Convergent derivation for 3-IO+1/2/3-DO in Ultrastrong PCC Catalan.

– The PLC regulates when failure of syntactic licensing leads to crash and repair by strong form or absence of person morphology.

4.2 Classical Arabic: Cyclic Expansion Feeds AGREE

- Cyclic Expansion (Řezáč 2003, Béjar and Řezáč 2009):
  - Chomsky (1995): Projections of a head a featurally identical to the head
  - Mechanics of Cyclic Expansion:
    - Step 1: Probe c-commands DO.
    - Step 2: Probe on head is projected to mother
    - Step 3: When specifier is merged, it is the sister of this projection.

Step 1:	Step 2:	Step 3
H[$u\phi$] ...DO... probe	H[$u\phi$] H[$u\phi$] ...DO...	S H[$u\phi$] probe H[$u\phi$] ...DO...

Table 8: Cyclic Expansion and structure building.

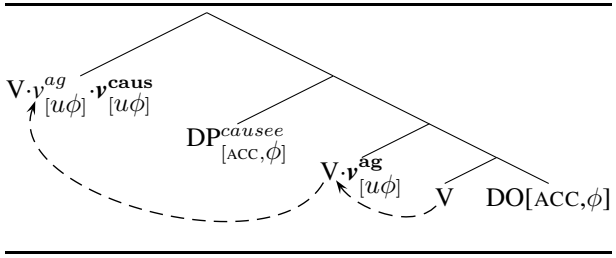


Table 9: Causative structure of double accusative verbs in Classical Arabic.

Sisters c-command one another, so probe on intermediate projection can probe the specifier.

General mechanisms of structure building and projection allow heads to probe their specifiers.

- Examples: S-PCC. Probes: [π,PART].

4.2.1 Syntax

- PCC arises in causative structures (Walkow t.a.a): Table 9.
  - Evidence for causative structure:
    - Morphology: Many verbs with two accusatives are derived from transitive verbs by additional morphology (CC:C or ʔaCCC) that is commonly described as causative (Wright 1874b:48, Brockelmann 1960:139, Howell 1880:265/270).
    - Thematic relations: The first of the accusatives is often an agent, the second an object, parallel to the underived forms of the verbs (Howell 1880:103, Reckendorf 1895:113).

(21) a. *raʔa:*, 'see' vs *ʔarʔa:* 'show.'
b. *ʕalɪma*, 'know' vs *ʔaʕlama*, 'teach.'
(Howell 1880:266, Wright 1874a:34)

    - Binding: Verb rising causatives and double object constructions differ in their biding possibilities (Baker 1988:210ff).

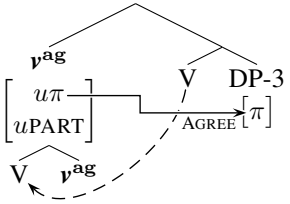
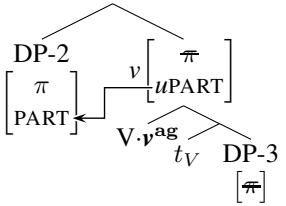
Step 1: v^{ag} AGREES with 2-DO.	Step 2: v^{ag} AGREES with 1-causee.
	

Table 10: Possible cliticization in 2 over 3: (5c).

· (22a): Objects in double object constructions can only co-refer with the subject if they are reflexive.

· (22b): Non-reflexive pronouns that are objects in causatives can co-refer with the matrix subject.

(I use English data with periphrastic causatives in (22) for convenience. Baker 1988 demonstrates these facts for morphological causatives)

(22) a. John$_i$ showed Mary {him$_{*i}$/ himself$_i$.}
b. John$_i$ made Mary see {him$_{i\checkmark}$/ *himself$_i$.}

(23) *ʔa-qbadˁ-tu$_i$* *=ka* **ʔɪyːaːː=ja**$_i$
CAUS-take-1SG=2SG.M ACC=1SG
'I made you take me' (de Sacy 1905:378)

Coreference between the non-reflexive pronoun in (23) and the subject suggests that double accusative constructions are causatives.

– Both accusatives are structural:
  * Either argument can promote to subject in the passive
  * Both of them can disappear in nominalizations
– The two accusatives are assigned by different heads: In nominalizations one argument can appear in accusative and the other in genitive, suggesting that accusative case assigners can disappear in nominalizations one at a time.

- Deriving possible clitic combinations: v^{ag}'s probe is active after agreement with DO, Table 10.

  Example (5c): Second person causee over third person DO.

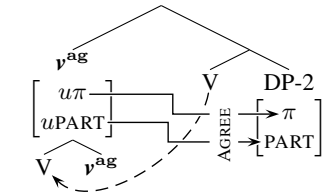
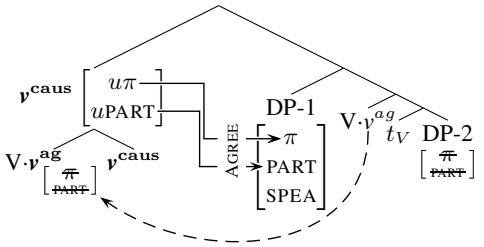
Step 1: v^{ag} AGREES with 2-DO.	Step 2: v^{caus} AGREES with 1-causee.
	

Table 11: Impossible cliticization in 1 over 2 in U-PCC: (7).

– Step 1: AGREE with DO.
  * V has undergone movement to v^{ag} (indicated by dashed arrow).
  * v^{ag}'s [$u\pi$]-feature AGREES with the corresponding feature on DO.
  * The probe's [uPART]-feature remains unvalued and active.
– Step 2: AGREE with causee.
  * The specifier is merged, allowing v^{ag}'s probe to access it from the intermediate projection
  * v^{ag}'s [uPART]-feature AGREES with the causee.
  * v^{caus}'s probe does not AGREE in this configuration.
– Both arguments have AGREED with the same probe, both cliticize.

Combinations of 3-DOs with 1-causees work analogously.

- Deriving absence of cliticization: v^{ag}'s probe is inactive after agreement with DO, Table 11.

  – Example: (7), first person causee over second person DO.
    * U-PCC and S-PCC differ on this combination.
  – Step 1: AGREE with DO.
    * V has undergone movement to v^{ag}.
    * v^{ag}'s [$u\pi$]- and [uPART]-features AGREE with the corresponding features on DO.
    * With all of its features valued, v^{ag}'s probe becomes inactive.
  – Step 2: AGREE with causee.
    * Verb movement raises the v^{ag}·V-complex to v^{caus} above the causee.

  - ∗ In (7)/Table 11: v^{ag}'s probe has no unvalued features left after AGREE with DO, so does not probe in Step 2.
  - ∗ v^{caus}'s probe AGREES with the causee and values its features.

    No one probe agrees with both arguments.
- All other person combinations where Φ(DO)⊇ Φ(causee) are derived analogously.

- Due to the presence of two probes no argument ever fails to AGREE entirely.

4.2.2 Cliticization and Alternative Realization

- Cliticization:
  - Head movement creates complex heads containing multiple probes:
  - Observation: Cliticization realizes the AGREE dependencies of the highest valued probe on a *v*-head.
    - ∗ When causee $\underset{\text{local}}{>}$ DO, that is v^{ag}.
    - ∗ DO $\underset{\text{local}}{\geq}$ causee, that is v^{caus}.

    Similar pattern is observed for verbal agreement morphology in Dutch dialects by van Craenenbroeck and van Koppen (2002).

  Combination of structure building, AGREE and morphological realization of the resulting structure blocks DO from cliticizing in person restriction environments.

- Alternative realization:

Table 10: Causee and DO AGREE with v^{ag}

Table 11: When causee AGREES with v^{caus} and DO AGREES with v^{ag}

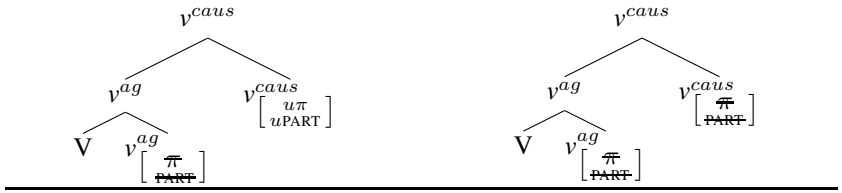


Table 12: Distribution of probes on complex *v*-heads in Classical Arabic

  - In many Romance languages alternative realization consist of a preposition/case marker *a* plus a non-nominative pronoun (e.g. Spanish and Catalan: Bonet 1991, French: Řezáč 2008:98, Italian: Cardinaletti and Starke 1999:169).
  - Pronouns with *a* also appear when pronouns are topicalized or conjoined (Cardinaletti and Starke 1999).
  - Řezáč (2007) suggests that *a* in these contexts is a morphological realization of the probe that licenses that argument.
  - Strong pronouns with *ʔɪjːaː-* appear in environments similar to *a*-pronouns in Classical Arabic.

  Proposal: *ʔɪjːaː-* is the realization of v^{ag}'s probe on the goal.

- Clitics and free pronouns are a different way of spelling out the dependency between the probe and the goal.
  - Cliticization: ϕ-properties of the goal are spelled out in the position of the probe.
  - Free pronouns: The probe is spelled out on the goal as *ʔɪjːaː-*.

- Summary:
  - Head movement feeding AGREE explains the pattern of when both arguments can cliticize.
  - The presence of two probes accounts for the realization of DO in its normal case, and cliticization of causee when no one probe can agree with both arguments.

5 Conclusion

- *Granularity*: Some variation in PCC can be accounted for by the feature specification of the probe, without parametrizing grammatical operations:
  - $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$: U-PCC.
  - $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$: S-PCC.

  The proposal can be extended to other types of PCC, but at a cost of less plausible feature specifications of probes and pronouns.

- *Place of Repair*:
  - Underlying structures and the effect of argument/head movement offer an explanation of the place of repair.
  - Certain 'repairs' are structures where failure to AGREE does not lead to ungrammaticality.
  - Derivational blocking rather than Last Resort.

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