How to eliminate templates and fission: deriving person discontinuities with spans

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NELS 52, October 29-31, 2021

1 Overview

- Clitic order has been treated as an arbitrary component of morphosyntax, requiring:
  - templates (Bonet, 1991; Perlmutter, 1971),
  - fission (Arregi and Nevins, 2012; Halle and Marantz, 1993), or
  - clitic-specific projections (Sportiche, 1996)
- **Main claim:** clitic orders follow from predictable movements of Agreement subtrees inside syntactic heads
  - Discontinuities emerge from genuine syntactic movements

1.1 Puzzle

- Yulparija (Pama-Nyungan, Western Desert) has a robust system of pronominal clitics that:
  - are second-position
  - obligatorily double all argument DPs
  - follow a person hierarchy (1 > 2 > 3)
- The puzzle: in certain contexts, clitics cross-referencing a single DP can be *discontinuous*
- The morpheme exponing person (*-nta*) splits from the one exponing number (*-pula*):

(1) Clitic *-nta-pula* '2DU.ACC' splits

a. *pu-nganya* **=nta** **=ya** **=pula**
hit-FUT -2DU.ACC -3PL.NOM -2DU.ACC

'They will hit you two.'

b. *ka-ngu* **=nta** **=ya** **=pula**
carry-PST -2DU.ACC -3PL.NOM -2DU.ACC

'They took you two.'

- In other contexts, clitics are not discontinuous

(2) No splitting in other clitic combinations

a. *pu-nganya* ***=li-ju*** ***=nta-pula*** *(*=li =nta =ju =pula)*
hit-FUT 1EXCL.DU.NOM 2DU.ACC
'We (excl) will hit you two…'

b. *pu-ngku-la* ***=la-nya*** ***=ya*** *pawu-lku-rta* *(*=la =ya =nya)*
hit-IRR-IMP =1PL.EXCL.ACC =3PL.NOM cook-IRR-EMPH
'They might kill us and cook us.'

c. *tiyi* ***=rna*** ***=li-mpa*** ***=lura*** *kuja-n-pa* *(*=li =rna =mpa =lura)*
tea.ABS 1SG.NOM 1INCL.DU.DAT 3SG.ABL prepare-FUTMIN
'I'll brew tea for both of us.' B-34

- How do speakers know when clitics should split? Why do only 2p. dual clitics split?
- Claim: clitics split because of movement during Spellout

2 Analysis

- I cast the analysis in a variant of Nanosyntax (Caha, 2009; Starke, 2009)
- Clitics are formed via Agree in the specifier of DP (Torrego, 1992; Uriagereka, 1995, a.o.)
  - Agree creates stacks of φ-features that match the underlying hierarchy of the DP ([CASE[NUMBER[PERSON]])
- These φ features are then matched to lexical items via a span-based spellout algorithm

(3) Principles of the Spellout algorithm

a. Biggest Wins: When there are multiple competitors in the lexicon that can spell out material in the syntax, insert the span that uses the most nodes in the syntax. (modified from Starke 2009: 3)

b. Minimize Junk: At each cycle, if several lexical items match the root node, the candidate with least unused nodes wins. (Starke 2009: 4)

- Nanosyntax usually also adopts the Superset principle, which states that overspecified vocabulary items may be inserted when no better match exists (Starke 2009: 3)
- I do not adopt the Superset principle, and instead adopt Last Resort Movement

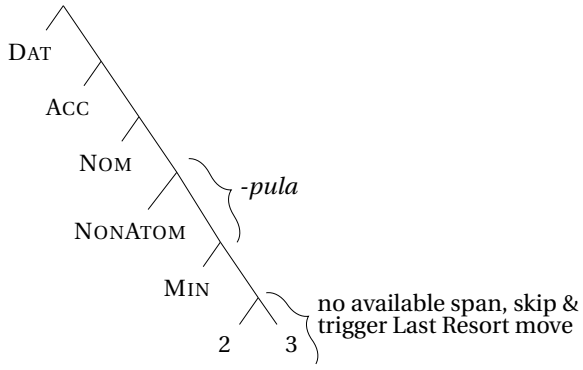
(4) *Last Resort Movement*
Features that have no matching lexical item locally may move and spell out with a higher span (Starke 2018: 245).

- To illustrate, take the lexicon in (5)

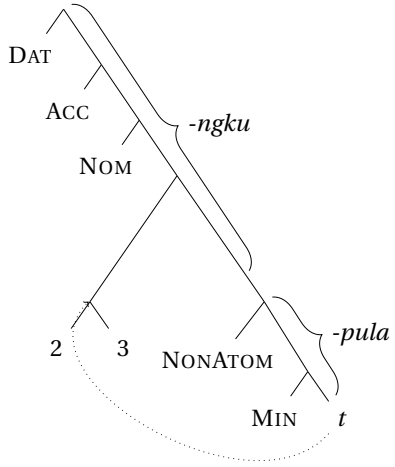
(5)
-n	⇔	[NOM [2 [3]]]
-nta	⇔	[ACC [NOM [2 [3]]]]
-ngku	⇔	[DAT [ACC [NOM [2 [3]]]]]
-nyurra	⇔	[AUG [2 [3]]]
-pula	⇔	[NONATOM [MIN]]

(6) Derivation of 2DU.DAT *-ngku-pula* (simplified)

a. Spell out *-pula*



b. Last Resort move person, spell out *-ngku*



2.1 Proposal

- I propose that are three reasons why φ features move:

(7) *Last Resort Movement*: Features that have no matching lexical item locally may move and spell out with a higher span (Starke 2018: 245)

(8) *Clitic Licensing*: Clitic lexical items bear a □ feature that requires them to move above another clitic (see Franks 1998, Bošković 2001)

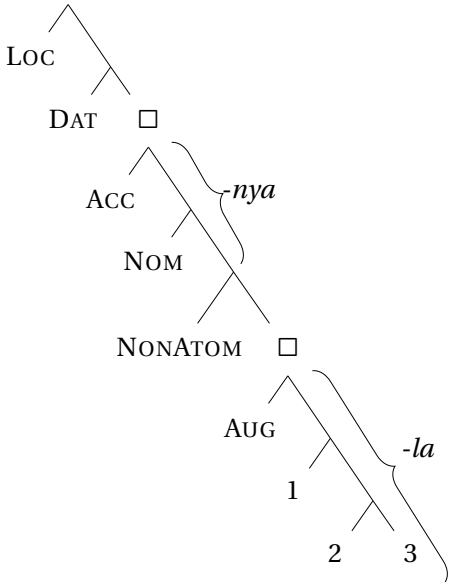
(9) *Person First Requirement*: High person features will (a) obligatorily pied-pipe with other clitics, or (b) undergo an additional movement so that higher persons are structurally higher than lower persons

- As an example, take the derivation of *la-nya-ra* '1PL.LOC'

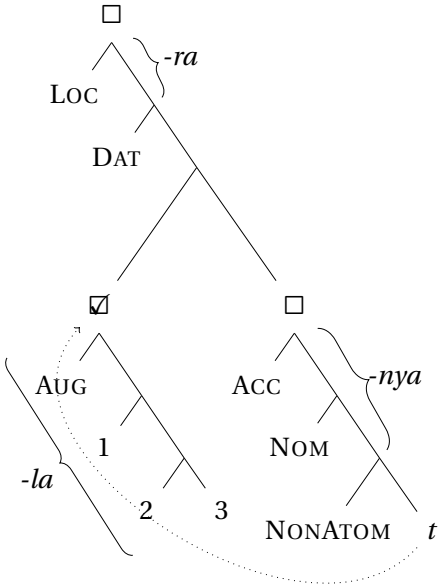
(10) Vocabulary items for 1PL.LOC *-la-nya-ra*
□ *-la* ⇔ [AUG [1 [2 [3]]]]
□ *-nya* ⇔ [ACC [NOM [NONATOM]]]
□ *-ra* ⇔ [LOC [DAT]]

(11)

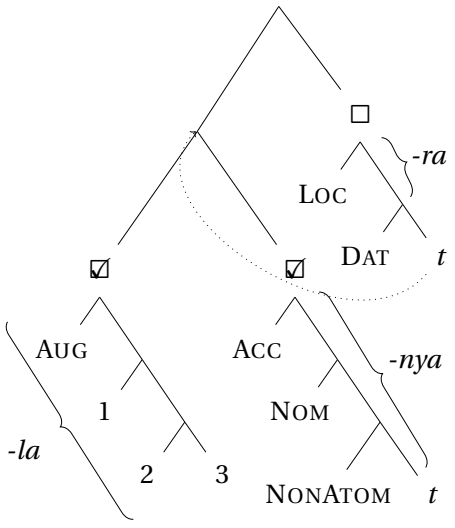
Step 1: spell out *-la*, spell out *-nya*



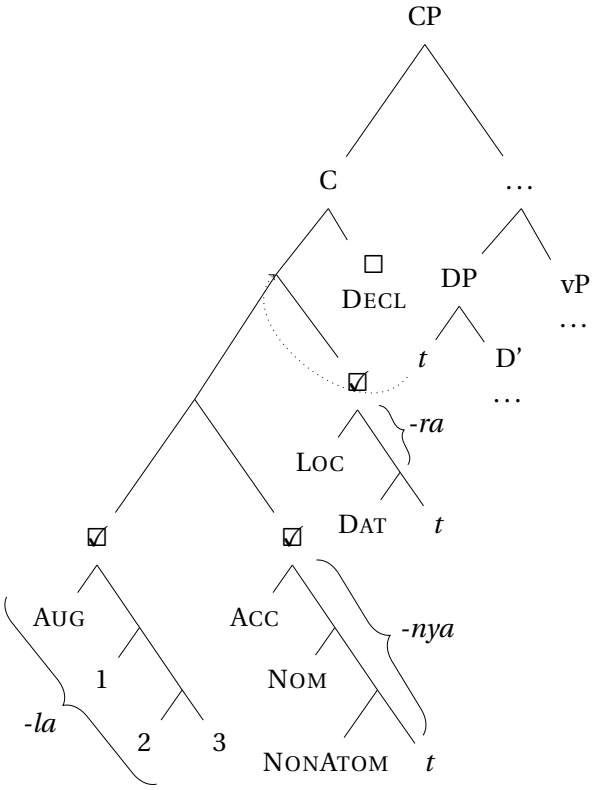
Step 2: move *-la*, spell out *-ra*



Step 3: move *-la-nya*, Person First forces pied-piping of *-la*



Step 4: *-ra* moves to C, Person First forces pied-piping



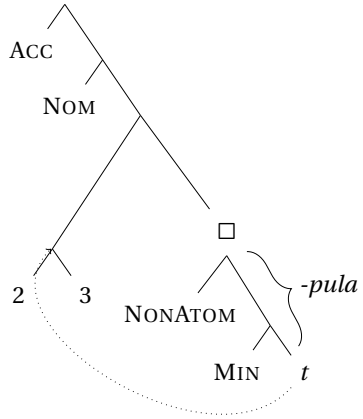
- Splitting is not possible because it would be extraction out of a left-branching adjunct

2.2 Deriving splitting

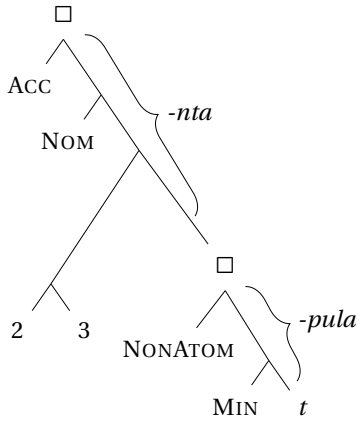
- Split clitic constructions occur because Person First and Clitic Licensing are in conflict
- Clitic Licensing is delayed in Step 3, because otherwise movement would violate Person First

(12) Vocabulary items for *-nta-pula*
- □ *-nta* ⇔ [ACC [NOM [2 [3]]]]
- □ *-pula* ⇔ [NONATOM [MIN]]

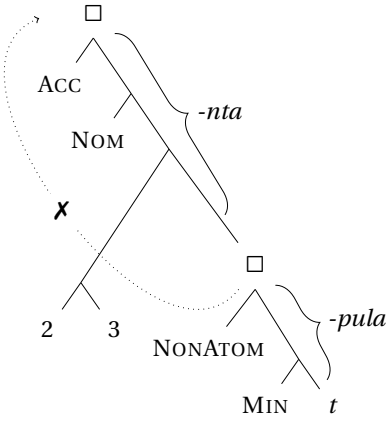
Step 1: Last-resort move [2 [3]], spell out *-pula*



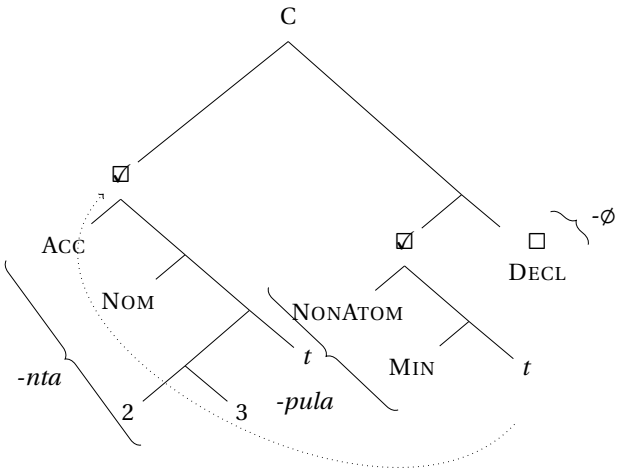
Step 2: spell out *nta*



(13) Step 3: No local clitic licensing possible



Step 4: Move *-pula* to C, *-nta* to C



- The dual clitics each move separately to C to be licensed
- Therefore, they may "split" at C because they were not a single constituent to begin with

3 Alternatives

- In this analysis, splitting is predictable based solely on a hierarchy of morphosyntactic features, a requirement for clitics to move, and the Person First Requirement
- These operations are not arbitrary, but must be inferred by the learner in order to correctly generate the clitic paradigm alone
- By contrast, other models like DM will treat clitic order as largely something to be memorized
- Extension: there are parallel discontinuities within the clitic cluster *-la-nya-ju* '1PL-ACC-EXCL' that are predicted under spans but not a DM fission-style analysis

4 Conclusion

- The clitic cluster is generated by predictable, genuine syntactic movements
- Person discontinuities emerge from applying these movements in predictable ways – no special rules need to be memorized
- Clitic syntax may be less arbitrary than previously understood

References

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5 Extensions: Discontinuities in the clitic paradigm

- A non-coincidence: there are parallel discontinuities in the clitic paradigm, too
  - High person features appear at the left (underlined below)
  - The exclusive person *-ju* (bolded) can be wedged between accusative (*-nya*) and locative (*-ra*) case (e.g. *la-nya-**ju**-ra* ''1PL.EXCL.LOC')

(14) Excerpt of Yulparija clitic paradigm (Burgman 2008)

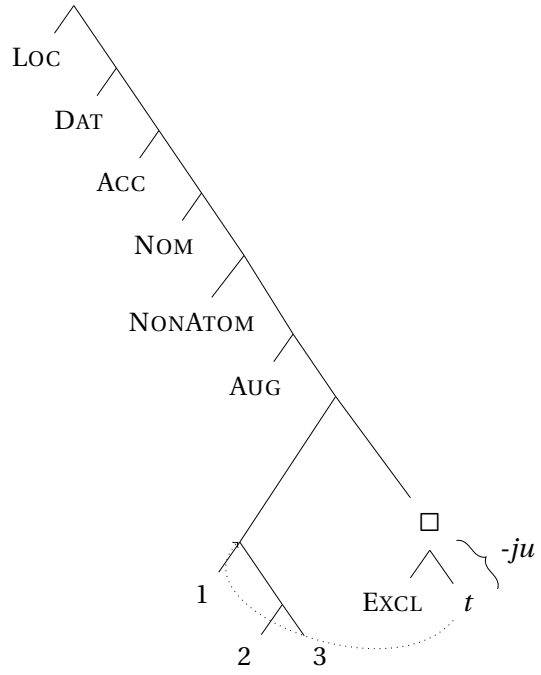
		NOM/ERG	ACC	DAT/GEN	LOC/COM
sg	1	-rna	-ja	-ju	-ja-ra
	2	-n	-nta	-ngku	-nta-ra
	3	-∅	-∅	-ra	-lu
du	1 incl	-li	-li-nya	-li-mpa	-li-nya-ra
	1 excl	-li-**ju**	-li-nya-**ju**	-li-mpa-**ju**	-li-nya-**ju**-ra
	2	-n-pula	-nta-pula	-ngku-pula	-nta-ra-pula
	3	-pula	-pula-nya	-pula-mpa	-pula-nya-ra
pl	1 incl	-la	-la-nya	-la-mpa	-la-nya-ra
	1 excl	-la-**ju**	-la-nya-**ju**	-la-mpa-**ju**	-la-nya-**ju**-ra
	2	-nyurra	-nyurra-nya	-nyurra-mpa	-nyurra-nya-ra
	3	-ya	-jana-nya	-jana-mpa	-jana-nya-ra

- The discontinuities in the clitic paradigm are parallel to discontinuities we saw in the clitic cluster
- This analysis will also predict discontinuities with exclusives
  - e.g. *la-nya-ju-ra* '1PL.EXCL.LOC'

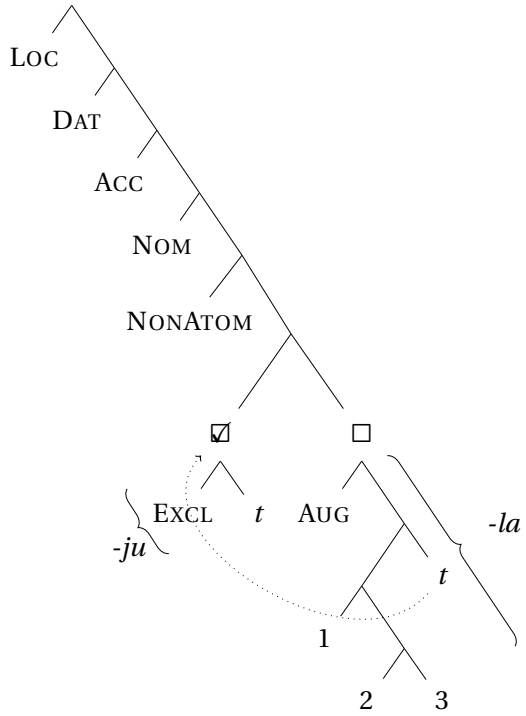
(15) Vocabulary items for 1PL.EXCL.LOC *-la-nya-ju-ra*
☐ *-la* ⇔ [AUG [1 [2 [3]]]]
☐ *-nya* ⇔ [ACC [NOM [NONATOM]]]
☐ *-ju* ⇔ [EXCL]
☐ *-ra* ⇔ [LOC [DAT]]

(16)

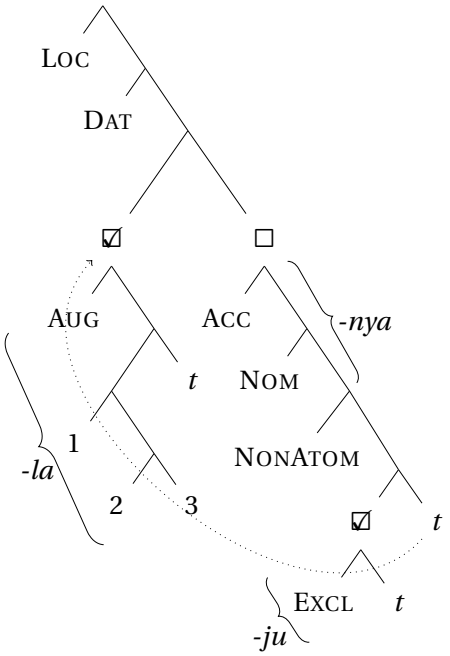
Step 1: spell out *-ju*, Last Resort move of person



Step 2: spell out *-la*, move *-ju*



Step 3: spell out *-nya*, move *-la*



Step 4: spell out *-ra*, move *la-nya-ju*