

## Two Types of Morphological Displacement

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The screenshot shows the Urban Dictionary website interface. At the top, the word 'URBAN' is written in large, stylized letters, with 'DICTIONARY' below it. A search bar contains the text 'look up: Mowl'. Below the search bar, there are navigation buttons for 'word of the day', 'browse', 'add', and 'edit'. A horizontal menu of letters from A to V is visible, with 'M' highlighted. The main content area displays the entry for 'Mowl', which is defined as 'Net lingo for the German word "Maul" that means: SHUT UP!'. The entry has 34 upvotes and 15 downvotes. On the left side, there is a promotional banner for 'Mo' Urban Dictionary' with the tagline 'This book is the shiznit.' and a small image of the book cover.

## Constraints that Cause Morphological Metathesis

- Relative Positional Morphotactics ( DERIV  $\succ$  INFL)
- Absolute Positional Morphotactics ( NONINITIALITY )

# Outline

- 1 Morphotactic Factors
- 2 Case Studies
  - Scandinavian Definite Article
  - English comparative morpheme
  - Chichewa APPL  $\succ$  RECIP
- 3 Word-Internal Wackernagel Effects
  - Second-Position in Lithuanian
  - Basque Auxiliary Root
- 4 Conclusion

## DERIV $\succ$ INFL

Greenberg (1963, Univ 28), Bybee (1985), Dressler et al. (1987):  
**derivation should be linearly between the root and inflection.**

(Bybee: derivational affixes are iconically closer to the stem's meaning.  
Dressler: inflectional formatives are outwardly indexical towards other  
sentential elements)

Let us take DERIV  $\succ$  INFL as a *morphotactic* constraint that  
holds at all synchronic stages of a grammar.

## Haspelmath (1993): Externalization of Inflection

When inflection gets trapped inside of derivation, eventually it would like to move out. For example, Spanish plural agreement becomes trapped inside verbal reflexive marker

- (1)    siente -n    -se  
        sit     -3pl. -refl ('sit down! (pl. imperative)')

According to  $\text{DERIV} \succ \text{INFL}$  this should become

- (2)    siente -se -n  
        sit     -refl -3pl.

But “Language change must be gradual, otherwise innovating speakers would not be understood by conservative speakers” (p. 302).

## Haspelmath (1993): Intermediate Hybrid Forms

As part of the transition from *siente -n -se* to *siente -se -n*, “speakers have no choice but to create hybrid forms” like *siente -n -se -n*. “Innovations can take only one step at a time, so hybrid forms are necessary”. (p.302)

Haspelmath leaves open: “How do speakers get rid of the residual, nonfunctional internal inflection?...Some details of the final cleaning up remain to be accounted for” (p.303).

## Characterizing Hybrids and the Cleaning Up

We seek a mechanistic explanation that can account for

- The morphotactic violated by the old forms
- The creation of hybrid forms as a response to the morphotactic
- The “one step” innovation that leads to eventual metathesis

## Creating the Hybrid Forms

Unaware of these Haspelmathian desiderata, Harris and Halle (2005) developed a framework to represent partial reduplication. Let us characterize it as follows: the “trapped item”, which must move out to the right, is pointed at by an angled bracket.

(3)    *siente* [-n > -se] → *siente* -n -se **-n**

Reiss and Simpson (2009) provide a software implementation of interpreting > commands.



## Screenshot: *siente -n -se -n*

### Linearization

Note that only material falling within the reduplication domain is displayed in the projection tree below. Material preceding or following the domain is affixed to the linearized output of `Project`.

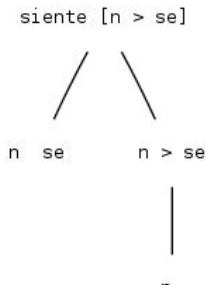
*Input*

`siente [n > se]`

*Output*

`siente n sen`

### Structured Projection



## Resolving the morphotactic

Suppose  $\text{DERIV} \succ \text{INFL}$  has a weaker version:

- (4) \*UNIFORM  $\text{INFL} \succ \text{DERIV}$ : An inflectional affix I cannot uniformly precede a derivational affix D, where *uniformly precedes* means that all tokens of I precede all tokens of D.

In *siente -n -se -n*, inflectional *-n* no longer uniformly precedes derivational *se*.

See Muysken (1986) for negative filters on pairwise affix precedence of this type.

## Eliminating the Hybrid Forms

The Halle-Harris formalism assigns the meaning “copy to the right” for the instruction  $[A > B]$ , and “copy to the left” for the instruction  $[C < D]$ .

An interesting consequence: *siente*  $[-n > < -se]$  will result in wholesale metathesis, yielding *siente -se -n*.

The hybrid forms can be gradually eliminated by addition of the extra  $> \dots$

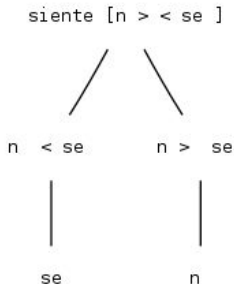
## Screenshot: *siente -se -n*

### Linearization

Note that only material falling within the reduplication domain is displayed in the projection tree below. Material preceding or following the domain is affixed to the linearized output of Project.

<i>Input</i>	<i>Output</i>
<code>siente [n &gt; &lt; se ]</code>	<code>siente se n</code>

### Structured Projection



## Important prediction of the Halle-Harris Formalism

Given the fact that  $[A ><B]$  is but a step away from more conservative  $[A > B]$ ,  
all cases of synchronic morpheme metathesis are likely to be accompanied by dialectal and diachronic **doubling**.

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## Pattern of Definiteness Marking

- (5) hest -en  
horse -the (Swedish, Danish)
- (6) den hest -en  
the horse -the (Swedish, \*Danish)
- (7) den gamla hest  
the old horse (Danish, \*Swedish)
- (8) den gamla hest-en  
the old horse-the (Swedish, \*Danish)

(Delsing 1993; Embick and Noyer 2001; Hankamer and Mikkelsen 2005)

## FIND-HOST

-*en* is suffixal. Three ways of finding a host:

- (9) *d*- support: insert an epenthetic morph *d*- to the left of -*en*, and suffix the latter to the former.
- (10) [ -*en* > hest ]: Move -*en* to the end of the noun, creating a hybrid form: -*en hest -en*. Perform *d*- support for the leftmost token.
- (11) [ -*en* > < hest ]: Metathesize -*en* to the right of the N<sup>0</sup>.
  - Doubling difference: Swedish allows (10), Danish does not.
  - Displacement always impossible with complex nouns (e.g. *studenterende*)
  - Displacement impossible in Danish when an adjective intervenes.



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## the most unkindest cut

Abney (1987): [ *-st<sub>superlat</sub>* [ AP ... ] ].

(12) [est > <unkind ]: *unkind -est*

(13) *mo-* support when host too big: *mo-st helpful*

(14) *mo-* support when host too far: *\*the amazingly kind-est person, the most amazingly kind person*

(15) a. Shakespeare uses hybrid form: [est > unkind]: *-est unkind -est*

b. ... plus *mo-* support: *most unkindest*

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## Morphotactic Migration of Appl to the Left

- Hyman and Mchombo (1992): despite the semantic scope  $\text{appl}(\text{recip}(\text{verb}))$  and mirror-principle effects, an input like [ Verb -Recip -Appl ] must respect  $\text{APPL} \succ \text{RECIP}$
- The source of  $\text{APPL} \succ \text{RECIP}$ : Laura Downing (pers. comm.) suggests  $\text{RECIP} \succ \text{APPL}$  would bleed vowel height harmony of the applicative, as reciprocal *-an* never allows macrostem harmony to percolate through it.
- Applicative wants to get to the left.
- *thyól* [ -RECIP  $>$   $<$  -APPL ] becomes *thyól-él-an-á* instead of \**thyól-an-ir-á*.

## A Looming Prediction of APPL $\succ$ RECIPIENT

- Hyman & Mchombo (1992): Not only is [ Recip  $>$  Appl ] attested, but also [ Recip  $<$  Appl ]:
- \*mang-an-ir-a ‘to tie each other for someone’
- mang-ir-an-a ‘to tie each other for someone’
- mang-ir-an-**ir**-a “to tie each other for someone’

An apple does not fall far from the tree: where metathesis is found, doubling is nearby in time or space.

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## Second-Position in Lithuanian

Nevis and Joseph (1993): Lithuanian *si* is 2nd position within the word:

- (16)
- a. iš-**si**-laikaũ 'I hold my stand'
  - b. laikaũ-**si** 'I get along'
  - c. pri-**si**-pa-žinti 'to confess'

Synchronically *si* occurs as far left in the verbal word as possible while respecting NONINITIALITY.

Old Lithuanian: *ne pa-si-piktinsiuo-s* (Nevis & Joseph (p.108) ... a hybrid stage!

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## Basque has a NONINITIALITY Requirement

- Like Lithuanian, it has a morpheme – the tense root of the auxiliary – that cannot be initial in the word.
- When the syntax does not deliver a morpheme to its left, a variety of metathetic operations are enacted to supply one.

## Morphemes in Finite Auxiliaries

ABS – T – DAT – ERG

(17) Suk ni ikusi **n -a -su.**  
you.Sg.Erg me.Abs seen ABS.1SG -PRS -ERG.2SG  
'You(Sg) have seen me.' (Ondarru)

(18) Eurak suri liburu emon **d -o -tzu**  
they.Erg you.Sg.Dat book.Abs given D -PRS -DAT.2SG  
**-e.**  
-ERG.3PL  
'They have given the book to you(Sg).'

Finite auxiliary: tense (=root); ABS, DAT, ERG clitics.

## Basque has no third person absolutive clitic.

2nd/3rd clitics: plural -e. (Ondarru)

(19) Nik seuei emon d -o -tzu -e -t.  
I.Erg you.Sg.Dat given D -PRS -DAT.2 -DAT.PL -ERG.1SG  
'I have given it to you(Pl).'

(20) d -o -su -e s -as -e  
D -PRS -ERG.2 -ERG.PL ABS.2 -PRS -ABS.PL

(21) d -o -tz -e -t d -ab -∅ -e  
D -PRS -DAT.3 -DAT.PL -1SG D -PRS -ERG.3 -ERG.PL

Exception: no -e with 3rd plural *absolutive* argument.

(22) Suk liburuk irakurri d -o -su -s.  
you.SG books read D -PRS ERG.2SG -S  
'You(Sg) have read the books.'

## Tense Noninitiality

T cannot be the first morpheme within the word (Azkue 1923; Laka 1993; Albizu and Eguren 2000; Arregi and Nevins 2008)

- Must hold of representations after Linearization.
- Typically satisfied because of ABS clitic:

(23) Nik su ikusi s -atxu -t.  
I.Erg you.Sg.Abs seen ABS.2SG -PRS -ERG.1SG  
'I have seen you(Sg).' (Ondarru)

## Repair #1: *d*- support

- (24) Nik liburu ekarri **d** -o -t.  
I.Erg book.Abs brought D- -PRS -ERG.1SG  
'I have brought the book.' (Ondarru)

The *d*- is an epenthetic morpheme, varying widely across dialects. In the absence of epenthesis, displacement reorders morphemes accordingly ...

## Metathesis

- Under certain conditions, Noninitiality satisfied by reordering an enclitic to initial position: [ T > < CL ]
- Metathesis of ERG; only in the past (all dialects):

(25) Nik liburua ekarri n -eb -an.  
I.Erg book.Abs brought ERG.1SG -PST -N  
'I brought the book.' (Hualde et al. 1994, 126)

- Metathesis of DAT (some dialects) (Fernández 2001; Rezac 2008)

(26) Niri liburua emon n -a -su.  
me.Dat book.Abs given DAT.1SG -PRS -ERG.2SG  
'You(Sg) have given me the book.' (Lekeitio, Hualde et al. 1994, 125)

## Ambiguity of Repair Strategies

- Ambiguity of Basic Metathesis: [ T > < CL ]
- Strategy A: Metathesize, attract the closest clitic to the right: [ T > < CL.DAT ] CL.ERG
- Strategy B: Metathesize, attract the rightmost clitic: [ T CL.DAT > < CL.ERG ]

Schematically:

- (27) a. Dative-or-Ergative Displacement: [ T < CL.CLOSEST ]  
b. Ergative-Displacement: [ T ... < CL.FURTHEST ]

More ways to get Ergative Displacement than Dative, given variable mechanisms (basic approach to variability of Anttila (1997)).

## Once you Have the Right Theory, Life Loses Its Surprises

Dialectal variants show doubling of the clitic on both sides of T:

(28) **s** -itu **-su** -n

ERG.2SG -PST -ERG.2SG -N

(Oñati, de Yrizar 1992, vol. 2, 468)

(29) ... emun **n** -o **-st** -∅ -n.

... given DAT.1SG -PRS -DAT.1SG -ERG.3SG -N

'He gave me an apple.' (Oñati, Rezac (2008))

Clitic form depends on surface position: Displacement follows  
Linearization, but precedes Allomorph Selection



## ... Surprise: Tense reduplication in Ondarru

- What if Tense Moves Right Instead: [ T > -DAT -ERG ] ?
- Thus [ T >< -DAT -ERG.2 ] becomes T -DAT -ERG.2 -T
- *d-* support then applies to leftmost token, akin to *mo-st unkind-est...*

(30) Suk            niri        emon d -o       -st                -s                -**endu**  
you.Sg.Erg me.Dat given D -PST -DAT.1SG -ERG.2SG -PST  
-n.  
-N  
'You gave it to me.'

- Form of copy of T depends on surface position; ERG has proclitic form, since it precedes T.
- It looks like a weird form with two auxiliaries, but T reduplication provides an answer why: 'hyper-repair'.

## (More Than) Two Types of Morphological Displacement

- Relative vs. Absolute Positional Morphotactics
- Before or After Vocabulary Insertion

Treating L2 *didn't they left* as “an error” fails to explain *how* it arises in speakers' representations.

Morphological displacement may have

- Different morphotactic motivations
- Different targets of repair (“greed vs. altruism”)
- But the same computational mechanism, inextricably linking the telos of displacement to an intermediate stage of doubling.

- Abney, Steven. 1987. The English noun phrase in its sentential aspect. Doctoral Dissertation, MIT.
- Albizu, Pablo, and Luis Eguren. 2000. An optimality theoretic account for “ergative displacement” in Basque. In *Morphological analysis in comparison*, ed. Wolfgang U. Dressler, Oskar E. Pfeiffer, Markus A. Pöchtrager, and John R. Rennison, 1–23. Amsterdam: John Benjamins.
- Anttila, Arto. 1997. Deriving variation from grammar. In *Variation, Change and Phonological Theory*, ed. Frans Hinskens, Roeland van Hout, and Leo Wetzels, 35–68. Amsterdam: John Benjamins.
- Arregi, Karlos, and Andrew Nevins. 2008. Agreement and clitic restrictions in Basque. In *Agreement restrictions*, ed. Susann Fischer Roberta D’Alessandro and Gunnar Hrafn Hrafnbjargarson. New York: Mouton de Gruyter.
- Azkie, Resurrección María. 1923. *Morfología vasca*. Bilbao: Euskaltzaindia.
- Bybee, Joan. 1985. *Morphology*. Amsterdam: John Benjamins.

- Delsing, Lars-Olof. 1993. The internal structure of noun phrases in the scandinavian languages. Doctoral Dissertation, University of Lund.
- Dressler, Wolfgang, Willi Mayerthaler, Oswald Panagl, and Wolfgang Wurzel. 1987. *Leitmotifs in Natural Morphology*. Amsterdam: John Benjamins.
- Embick, David, and Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32:555–595.
- Fernández, Beatriz. 2001. Absolutibo komunztaduradun ergatiboak, absolutibo komunztaduradun datiboak: Ergatiboaren lekualdatzetik datiboaren lekualdatzera. In *Kasu eta komunztaduraren gainean. on case and agreement*, ed. Beatriz Fernández and Pablo Albizu, 147–165. Bilbao: Euskal Herriko Unibertsitatea.
- Greenberg, Joseph. 1963. Some universals of grammar with particular reference to the meaning of elements. In *Universals of Language*, 73–113. MIT Press.
- Hankamer, Jorge, and Line Mikkelsen. 2005. When Movement Must Be Blocked: A Reply to Embick and Noyer. *Linguistic Inquiry* 36:85–125.

- Harris, James, and Morris Halle. 2005. Unexpected Plural Inflections in Spanish: Reduplication and Metathesis. *Linguistic Inquiry* 36.2:192–222.
- Haspelmath, Martin. 1993. The diachronic externalization of inflection. *Linguistics* 31:279–309.
- Hualde, José Ignacio, Gorra Elordieta, and Arantzazu Elordieta. 1994. *The Basque dialect of Lekeitio*. Bilbao: Euskal Herriko Unibersitatea.
- Hyman, Larry, and Sam Mchombo. 1992. Morphotactic constraints in the Chichewa verb stem. In *Berkeley Linguistics Society* 18.
- Laka, Itziar. 1993. The structure of inflection: A case study in X<sup>0</sup> syntax. In *Generative studies in Basque linguistics*, ed. José Ignacio Hualde and Jon Ortiz de Urbina, 21–70. Amsterdam: John Benjamins.
- Muysken, Pieter. 1986. Approaches to affix order. *Linguistics* 24:629–643.
- Nevis, Joel, and Brian Joseph. 1993. Wackernagel affixes: Evidence from Balto-Slavic. *Yearbook of Morphology* 1992 93–111.

- Reiss, Charles, and Marc Simpson. 2009. Reduplication as Projection.  
<http://linguistics.concordia.ca/marc/projection/>.
- Rezac, Milan. 2008. The forms of dative displacement: From Basauri to Itelmen. In *Gramatika jaietan: Festschrift for Patxi Goenaga*, ed. Xabier Artiagoitia and Joseba Andoni Lakarra. Bilbao: Euskal Herriko Unibertsitatea.
- de Yrizar, Pedro. 1992. *Morfología del verbo auxiliar vizcaino: estudio dialectológico*. Bilbao Bizkaia Kutxa: Euskaltzaindia.