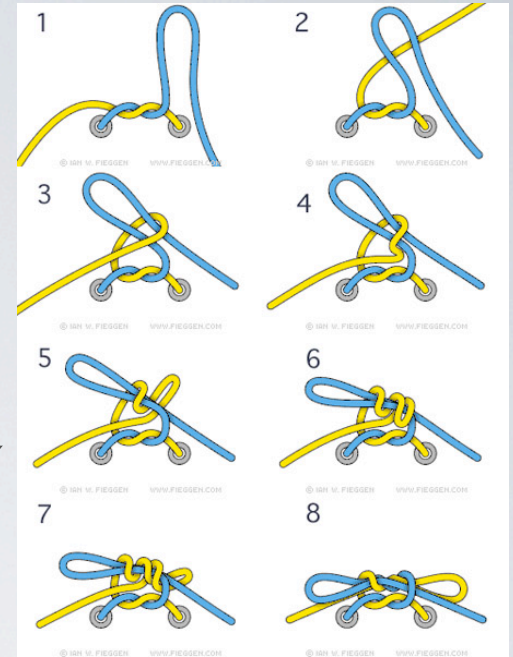


# DERIVATIONALITY AND MODULARITY



Andrew Nevins (Class of 2005)  
Reader in Linguistics, University College London

# THE PENDULAR SWING

- Anderson 1985's *Phonology in the Twentieth Century*: theoretical trends alternate between the poles of concern with computation and concern with representation (as such, he predicted OT on the horizon). Will this pendulum ever stop?
- Derivations and representations *can* be integrated:
  - Distinct representational status for separate *modules*, with specific operations and data-structures within them
  - Derivational chaining of these modules (cf. LPM-OT...)

# OPACITY IN SYNTAX: WANNA-CONTRACTION

- Who<sub>i</sub> do you want t<sub>who</sub> to help Jim? (wh- coreferent w/ helper)
- \*Who<sub>i</sub> do you wanna help Jim? (\*wh- coreferent w/ helper)
- Transformational ordering: wh- movement follows (and hence counterfeeds) wanna contraction
- Representational solution: wh- trace blocks wanna-contraction

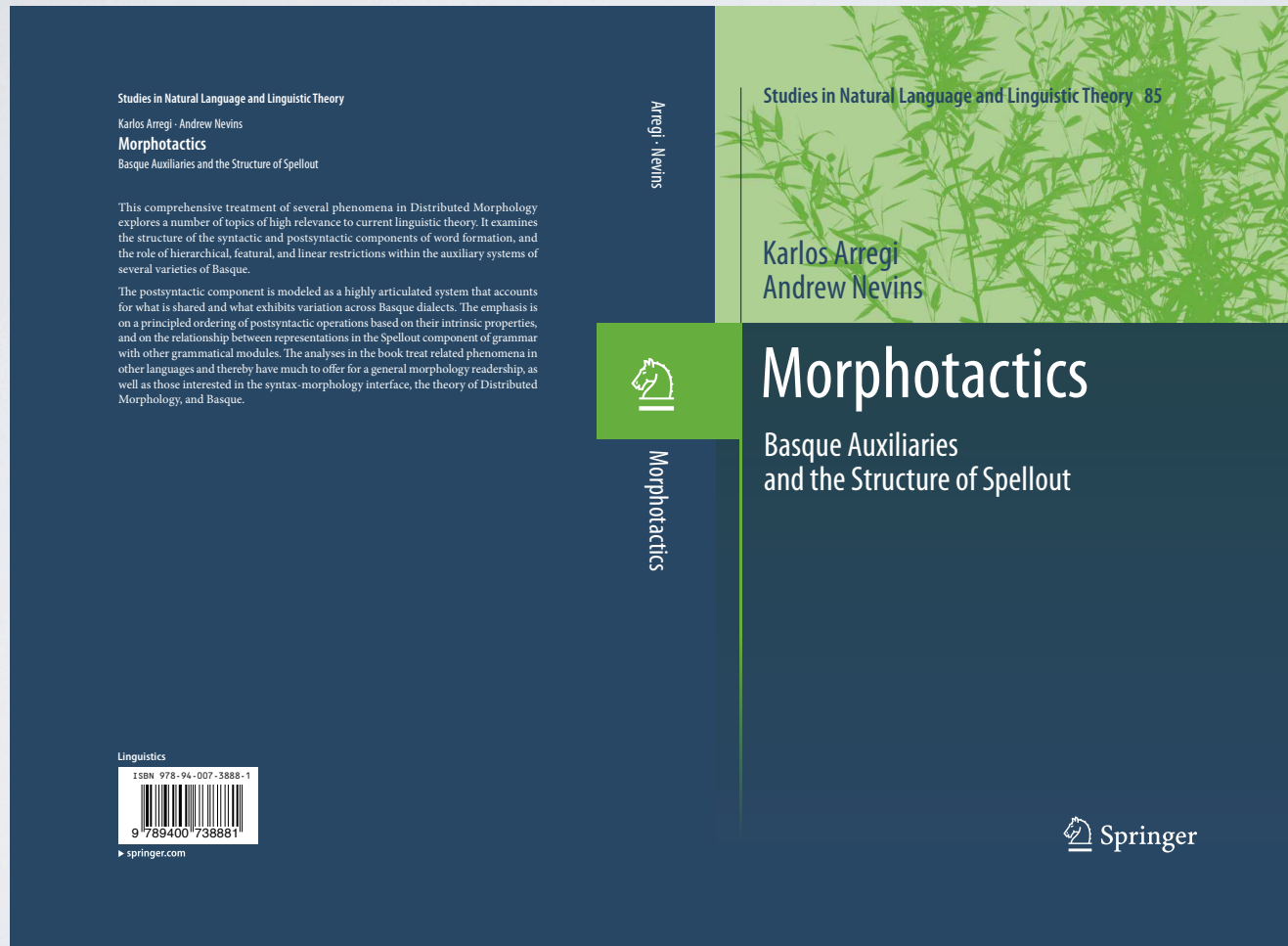
# OPACITY IN PHONOLOGY: LACK OF S-VOICING

- *resent /risent/* → [rizont, \*risent]
- *recede /rikid/* → [risid, \*rizid]
- Extrinsic ordering solution: s-voicing before velar-softening: “too late” to apply it in [risid]
- Representational solution: Underlying *k* leaves a ‘trace’ of velarity in the representation; s-voicing blocked by this trace

# OPACITY EXPLAINED: LEXICAL VS. POSTLEXICAL

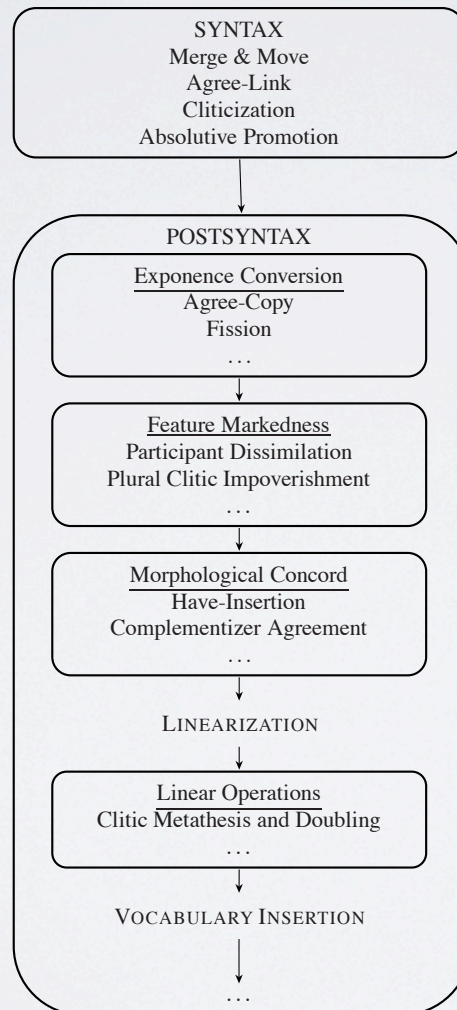
- Diphthong raising: doesn't apply across word boundaries (*lie for me*), has lexical exceptions within words (*cyclops*; Chambers 1973). **Lexical Rule**.
- Flapping: applies across word boundaries, exceptionless within words. **Post-lexical Rule**
- Bermúdez-Otero 2003: the derivational ordering of diphthong raising before flapping in *writer* [rəjɹər] follows from the rules' **intrinsic properties**

# CASE STUDY: BASQUE POST-SYNTAX



Morphotactic operations: deletion, metathesis, epenthesis  
in response to proprietary well-formedness

# MODULAR POST-SYNTACTIC ARCHITECTURE



# CRASH COURSE IN THE BASQUE AUXILIARY

- Auxiliary Root (*have/be*) encoding Agreement, Tense, Voice
- Absolute Proclitic
- Dative, Ergative Enclitics

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



# MORPHOLOGICAL DISSIMILATION

- Insensitive to hierarchical or linear representation
- Constraint: \* 1 pl clitic and 2sg/pl clitic in same M-word
- Repairs:
  - Delete 1 pl.Abs/ 1 pl.Dat in context of 2.Erg (Ondarru)
  - Delete 1 pl.Erg in context of 2.Abs/2.Dat (Zamudio)

# DISSIMILATION REPAIRS

- Ipl Erg deletion in Zamudio (in context of 2Sg Abs):
- Eroa-n bear \*s -aitu -u / s -ara eskola-ra.
- take-NF must CL.A.2.SG -PRS.2.SG -CL.E.1.PL / CL.A.2.SG -PRS.2.SG school-ALL.SG
- ‘We have to take you(Sg) to school.’
- Ipl Dat deletion in Ondarru (in context of 2Sg Erg):
- Su-k gu-ri liburu emo-n d -o (\*-ku) -su
- you(Sg)-ERG us-DAT book-ABS give-PRF L -PRS.3.SG (-CL.D.1.PL) -CL.E.2.SG
- ‘You(Sg) have given us the book.’

# MORPHOLOGICAL METATHESIS

- Sensitive to Linearized Representations
- Constraint: Second-position within the word (M2)
- Repairs (if not met syntactically)
  - Metathesis (past tense auxiliaries)
  - Epenthesis (present tense auxiliaries)

# 2ND POSITION REPAIRS

## Metathesis in the Past Tense

Sue-k Jon- ikus-te s -endu -e -n.

you(PI)-ERG Jon-ABS see-IMP CLE.2 -PST.3.SG -CLE.PL -CPST

‘You(PI) saw Jon.’ (Ondarru)

mortzillad-a euk-i s -endu -e -n -a

pudding-ABS.SG have-PRF CLE.2 -PST.3.SG -CLE.PL -CREL-ABS.SG

‘the place where you(PI) had a black pudding meal’

(Zamudio)

## Epenthesis in the Present Tense

• Sue-k Jon ikus-te d -o -su -e.

• you(PI)-ERG Jon-ABS see-IMP EP -PRS.3.SG -CLE.2 -CLE.PL

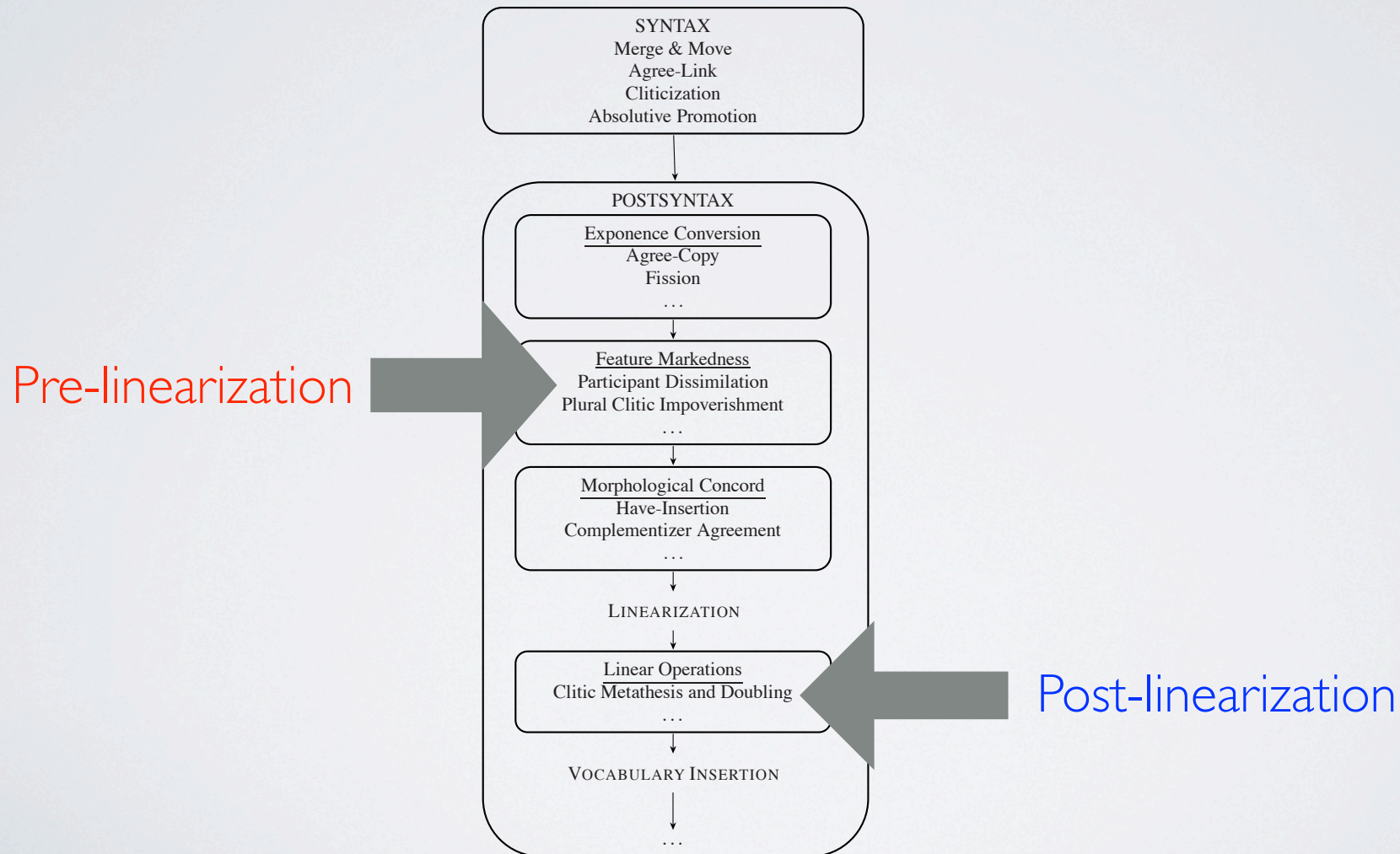
• ‘You(PI) see Jon.’ (Ondarru)

• Neu-k bakarrik eda-n d -o -t arda-u

• I-ERG only drink-PRF EP -PRS.3.SG -CLE.I.SG wine-this-ABS.SG

• ‘Only I have drunk this wine?’ (Zamudio)

# MODULAR POST-SYNTACTIC ARCHITECTURE



# WHEN DISSIMILATION FEEDS METATHESIS

- Su-k gu ikus-i s -endu -n
- you(Sg).ERG us-ABS see-PRF **CL.E.2.SG** -PST. I.PL -CPST
- ‘You(Sg) saw us.’ (Ondarru)

Dissimilatory deletion: No I pl ABS proclitic

Absence of this proclitic subsequently triggers  
metathesis to satisfy the M2 requirement

# WHEN DISSIMILATION BLEEDS METATHESIS

Gu-k atzo lagun-du **y**-a **-tzu** -e -n estasiño-ra  
we-ERG yesterday accompany-PRF **L** -PST.3.SG **-CL.D.2** -CL.D.PL -CPST station-ALL.SG  
We accompanied you(PI) to the station.' (Zamudio)

*Lack of lookahead:* Dissimilation doesn't 'know' that  
deleted |pl|<sub>ERG</sub> clitic will be needed later for M2  
requirement

*Opaque:* Epenthesis is overapplying in the past tense

# OPACITY AND MODULARITY

- We have pursued a parallel strategy in *morphotactics* to that employed within *phonotactics*
- The intrinsic properties of rules assigns them to specific modules
- These modules are themselves derivationally chained according to their properties
- Derivational properties such as lack-of-lookahead, opaque overapplication fall out from representational sensitivity



THANK YOU!



- Advantages of separation into  $m$  modules

- $2^k * m < 2^{(k*m)}$

- (also,  $k! * m < (k*m)!$  )