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\textsubscript{i} do you want t\textsubscript{who} to help Jim? (\textit{wh-} coreferent w/ helper)

• *Who\textsubscript{i} do you wanna help Jim? (*\textit{wh-} coreferent w/ helper)

• Transformational ordering: \textit{wh-} movement follows (and hence counterfeeds) wanna contraction

• Representational solution: \textit{wh-} trace blocks wanna-contraction
OPACITY IN PHONOLOGY: LACK OF S-VOICING

- *resent /risent/ ➔ [rizen, *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* [rəjɪrər] follows from the rules’ intrinsic properties
This comprehensive treatment of several phenomena in Distributed Morphology explores a number of topics of high relevance to current linguistic theory. It examines the structure of the syntactic and postsyntactic components of word formation, and the role of hierarchical, featural, and linear restrictions within the auxiliary systems of several varieties of Basque.

The postsyntactic component is modeled as a highly articulated system that accounts for what is shared and what exhibits variation across Basque dialects. The emphasis is on a principled ordering of postsyntactic operations based on their intrinsic properties, and on the relationship between representations in the Spellout component of grammar with other grammatical modules. The analyses in the book treat related phenomena in other languages and thereby have much to offer for a general morphology readership, as well as those interested in the syntax-morphology interface, the theory of Distributed Morphology, and Basque.

Morphotactic operations: deletion, metathesis, epenthesis in response to proprietary well-formedness
MODULAR POST-SYNTACTIC ARCHITECTURE

**INTRODUCTION:** The Structure of Spellout

**Figure 1.1** The serial and modular architecture of Basque auxiliary word-formation

**SYNTAX**
- Merge & Move
- Agree-Link
- Cliticization
- Absolutive Promotion

**POSTSYNTAX**
- Exponence Conversion
- Agree-Copy
- Fission
- ... 

- Feature Markedness
- Participant Dissimilation
- Plural Clitic Impoverishment
- ...

- Morphological Concord
- Have-Insertion
- Complementizer Agreement
- ...

**LINEARIZATION**

**LINEAR OPERATIONS**
- Linear Operations
- Clitic Metathesis and Doubling
- ...

**VOCABULARY INSERTION**

- ...

Is 'local' in the sense that it is only sensitive to whether a structural description is met, without 'lookback' to earlier derivational stages or 'lookahead' to eventual later consequences of rule application.

We label the entire path of derivational modules from the conclusion of syntax, through the post-syntactic component, to the onset of phonological computation as the **Spellout** process, and this book is devoted to articulating the structure of this Spellout. In what follows, therefore, we use Spellout for the procedure or the sequence of derivational steps, while post-syntactic components include the modules that follow syntax and precede phonology.

After syntactic operations are complete, the initial post-syntactic module is labeled the **Exponence conversion** component. This module is responsible for the second...
CRASH COURSE IN THE BASQUE AUXILIARY

• Auxiliary Root (*have/be*) encoding Agreement, Tense, Voice

• Absolutive Proclitic

• Dative, Ergative Enclitics

  • Suk ni ikusi
  
  • you.Sg.Erg me.Abs seen

  • ‘You(Sg) have seen me.’ (Ondarru)
MORPHOLOGICAL DISSIMILATION

• Insensitive to hierarchical or linear representation

• Constraint: *1pl clitic and 2sg/pl clitic in same M-word

• Repairs:

  • Delete 1pl.Abs/1pl.Dat in context of 2.Erg (Ondarru)
  
  • Delete 1pl.Erg in context of 2.Abs/2.Dat (Zamudio)
DISSIMILATION REPAIRS

• 1pl 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.’

• 1pl 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(Pl)-ERG Jon-ABS see-IMP CL.E.2 -PST.3.SG -CL.E.PL -CPST

‘You(Pl) saw Jon.’ (Ondarru)

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

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

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

(Zamudio)

*Epentheses in the Present Tense*

• Sue-k Jon ikus-te d -o -su -e.

• you(Pl)-ERG Jon-ABS see-IMP EP -PRS.3.SG -CL.E.2 -CL.E.PL

• ‘You(Pl) saw Jon.’ (Ondarru)

• Neu-k bakarrik eda-n d -o -t ardau-au

• I-ERG only drink-PRF EP -PRS.3.SG -CL.E.1.SG wine-this-ABS.SG

• ‘Only I have drunk this wine?’ (Zamudio)
MODULAR POST-SYNTACTIC ARCHITECTURE

**Introduction:** The Structure of Spellout

![Diagram of modular post-syntactic architecture]

- SYNTAX
  - Merge & Move
  - Agree-Link
  - Cliticization
  - Absolutive Promotion

- POSTSYNTAX
  - Exponence Conversion
  - Agree-Copy
  - Fission
  - ...

- Feature Markedness
  - Participant Dissimilation
  - Plural Clitic Impoverishment
  - ...

- Morphological Concord
  - Have-Insertion
  - Complementizer Agreement
  - ...

- LINEARIZATION
  - Linear Operations
  - Clitic Metathesis and Doubling
  - ...

- VOCABULARY INSERTION
  - ...

---

**Pre-linearization**

**Post-linearization**
WHEN DISSIMILATION FEEDS METATHESIS

• Su-k gu ikus-i s -endu -n

• you(Sg).ERG us-ABS see-PRF CL.E.2.SG -PST.1.PL -CPST

• ‘You(Sg) saw us.’ (Ondarru)

Dissimilatory deletion: No 1pl 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(Pl) to the station.’ (Zamudio)

Lack of lookahead: Dissimilation doesn’t ‘know’ that deleted 1pl ERG 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

• $2^k \times m < 2^{(k \times m)}$

• (also, $k! \times m < (k \times m)!$)