Harmony Triggering as a Segmental Property

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Exceptionality in Harmony Triggering

- Many languages have harmonies triggered by subset of potential triggers:
  - Nasal harmony in Acehnese (Cowan 1981, Durie 1985) and **Rejang** (Coady & McGinn 1982, McGinn 1982)

Triggering nasals	Non-triggering nasals
[mĩỹõw̃ã] 'coconut'	[tunew] 'wait'
[ɟaṃẽw̃] 'guava'	[ɟamew] 'party'
[mĩnae] 'come here'	

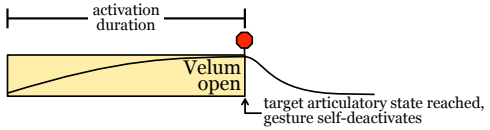
  - Tongue root harmony in Classical Manchu (Zhang 1996)
  - Backness harmony in Hungarian (Vago 1980)
- Morpheme indexation (Pater 2000) to harmony imperative constraints (e.g. SPREAD(F) (Padgett 1995)) over- and under-generates patterns of harmony triggering

Proposals:

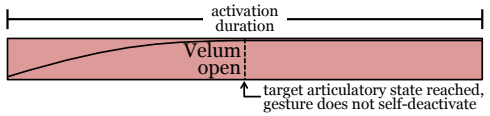
1) Idiosyncratic ability of some segments to trigger harmony is an encoded property of those segments
2) Encoded by deactivation parameter of subsegmental gestures

Representing Harmony with Gestures

- Gestures (Browman & Goldstein 1986, 1989): phonological units specified for multiple parameters (goal articulatory state, articulators, strength, etc.)
- Additional gestural parameter encodes whether gesture is self-deactivating or not (Smith 2016)
- Self-deactivating (non-harmony-triggering) gesture:



- Non-self-deactivating (harmony-triggering) gesture:



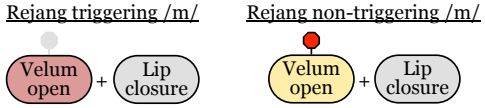
- Non-self-deactivating gesture (harmony trigger) overlaps other gestures (harmony targets)

Triggering Patterns & Inventory Shaping

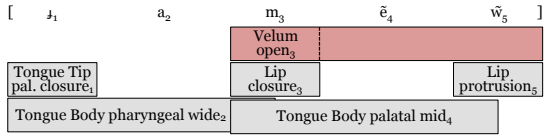
- Harmony is not driven directly by harmony-driving constraint
- Harmony results from non-self-deactivating gesture in language's phonological inventory and surface forms
- Inventory shaped by markedness and faithfulness constraints to include (non-)self-deactivating gestures:
  - NONSELFDEACTIVATE($Gest_X$): penalizes self-deactivating ( ) gestures of type X (e.g. velum opening)
  - IDENT(deactivation): preserves underlying gestural deactivation parameter
- **Phonemic triggering:** grammar allows both self-deactivating and non-self-deactivating gestures to surface

IDENT(deactivation) >> NONSELFDEACTIVATE

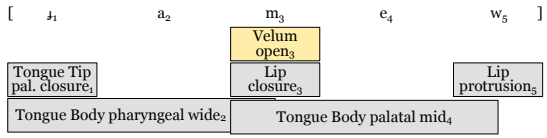
- Rejang inventory:



- Surface gestural score with triggering /m/:



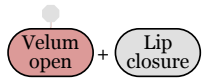
- Surface gestural score with non-triggering /m/:



- Self-deactivation parameter may be manipulated by grammar to produce total harmony triggering, as in Warao (Osborn 1966)

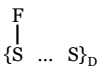
NONSELFDEACTIVATE >> IDENT(deactivation)

- Warao inventory:



Harmony triggering is a property of a segment, determined by deactivation parameter of a composite gesture

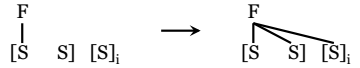
Constraint Indexation & Overgeneration



- SPREAD(F) (Padgett 1995): drives harmony by penalizing non-undergoers (segments not associated with harmonizing F)
- Constraint indexation (Pater 2000, 2009) to SPREAD(F) can generate patterns of exceptional triggering:

SPREAD(F)_i >> IDENT(F) >> SPREAD(F)

- Indexed roots trigger harmony; non-indexed roots do not
- **Problem:** potential *targets* of harmony may also be indexed to SPREAD(F)
  - Indexation of an affix to SPREAD(F)_i incorrectly predicts harmony within otherwise disharmonic roots:

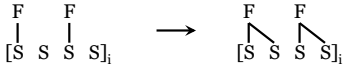


  - Exceptionally targeted affixes never induce harmony in otherwise disharmonic roots (Finley 2010)

Indexation to SPREAD(F) produces unattested patterns not generated by phonemic triggering analysis

Constraint Indexation & Undergeneration

- **Morpheme indexation** cannot generate systems with triggering and non-triggering segments in same morpheme
  - cf. forms such as Rejang [mĩnae] 'come here'
  - All segments bearing harmonizing feature in an indexed morpheme will trigger harmony



- **Segment indexation** cannot generate different distributional patterns of triggering and non-triggering segments
  - Acehnese: non-triggering nasals restricted to stressed (final) syllable (Durie 1985); triggering nasals unrestricted
  - Affix agreement with initial/final syllable of root: triggering segments restricted to root-edge syllables (Finley 2010)
  - Constraint indices cannot be referenced by positional faithfulness/markedness constraints (unlike gestural parameters)

Morpheme and segment indexation to SPREAD(F) cannot generate attested patterns of harmony triggering

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