

CUNY Phonology Forum 2007
Conference on Precedence Relations

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Relational Properties in Phonology: Precedence and Dependency

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1 Introduction

Main points:

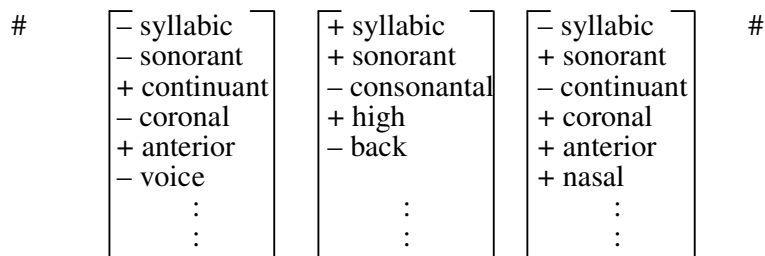
- This talk discusses the formal status of precedence, which is crucial for generating syllable structure in a derived representation, and in OT they are necessary for evaluating a given syllable structure in an output form.
- In a monostratal approach in phonology, syllable structure is fully specified in the lexicon according to universal principles, together with precedence relations at the skeletal level.
- Since syllable structure is lexically given in a monostratal approach, information relating to the linear order of segments is representationally redundant
- Precedence is a mere by-product of phonetic interpretation relevant to the sensori-motor systems.

Running order:

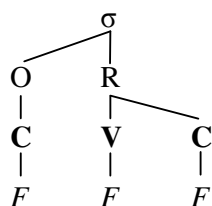
- An overview of the formal status of precedence in phonological theories
- The past and present status of precedence in contour segments
- The strong correlation between the notion of precedence and the lexical specification of syllable structure across different phonological theories.
- The redundant status of precedence under a restrictive interpretation of dependency relations.
- Linearisation processes without the need for employing precedence relations between representational units.

2 Precedence in phonology

(1) a. SPE

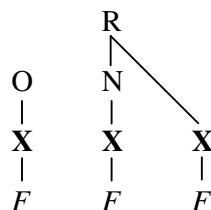


b. CV-tier model



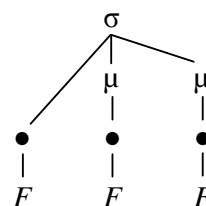
C/V = C/V position
 σ = syllable
 F = features

c. X-tier model



X = skeletal position
 O = onset R = rhyme
 N = nucleus

d. Mora-based model

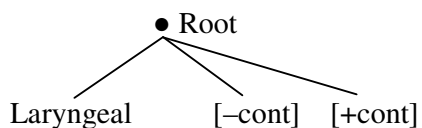


\bullet = the Root node of FG
 μ = mora

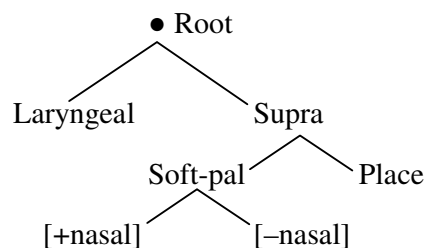
3 Precedence in melody

(2) 'Contour' expressions

a. Affricates

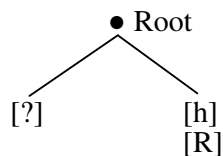


b. Prenasalised segments

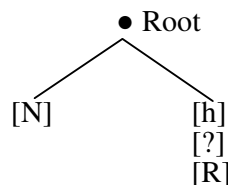


(3) Elements

a. Affricates



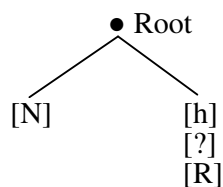
b. Prenasalised segments



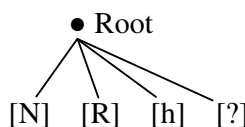
(4) ELEMENTS	PATTERN	ACOUSTIC PATTERN	ARTICULATORY EXECUTION
[ʔ]:	edge	Abrupt and sustained drop in overall amplitude	Occlusion in oral cavity
[h]:	noise	Aperiodic energy	Narrowed stricture producing Turbulent airflow
[N]:	murmur	Broad resonant peak at the lower end of the frequency range	Lowered of the velum
[R]:	rise	High spectral peak	Articulation with the tip or the blade of the tongue
[I]:	dip	Low F1 coupled with high spectral peak (Convergence of F2 and F3)	Maximal constriction of oral tube; maximal expansion of pharyngeal tube
[H]:	high source	F0 up	Spread vocal folds

(5) Prenasalised segments

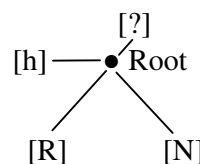
a.



b.

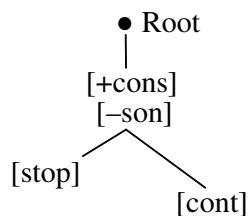


c.

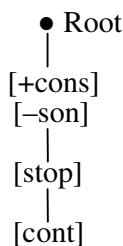


(6) Affricates

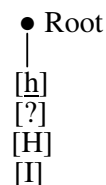
a. Lombardi (1990)



b. Schafer (1995)



c. Backley & Nasukawa (2006)



(7) Nasukawa (2005b: 103-105)

a. Prenasalised alveolar stop

X
 |
 [h]
 [ʔ]
 [R]
 [N]

b. Truly-voiced alveolar stop

X
 |
 [h]
 [ʔ]
 [R]
 [N]

4 Lexical specification

(8) PHONOLOGICAL LICENSING (Harris 1994: 156, Kaye 1990: 306)

- a. Within a domain, all phonological units must be licensed save one, the head of that domain.
- b. Licensing relations are local and directional.

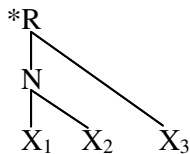
(9) a. LOCALITY

The head must be adjacent to its dependent.

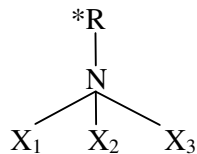
b. DIRECTIONALITY

The head and its dependent assume a unidirectional precedence.

(10) a.

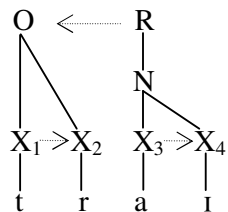


b.

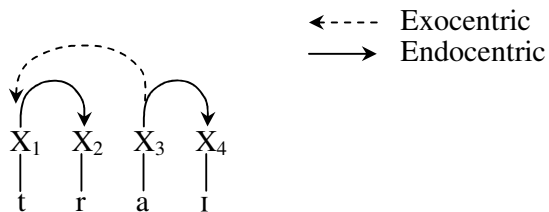


5 Precedence as a redundant property in monostratal phonology

(11) a. *try*



b.



(12) Types of dependency

a. ENDOCENTRIC DEPENDENCY

If the dependent is the same type as its head, such a dependency is called endocentric.

b. EXOCENTRIC DEPENDENCY

If the dependent is a different type of its head, such a dependency is called exocentric.

(13) Takahashi (2004: 172)

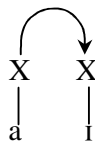
a. ENDOCENTRIC DEPENDENCY: if $\alpha \Rightarrow \beta$, then $\alpha \ll \beta$

In endocentric dependency wherein α and β are the head and the dependent position, respectively, α strictly and immediately precedes β in phonetic interpretation.

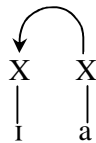
b. EXOCENTRIC DEPENDENCY: if $\alpha \rightarrow \beta$, then $\alpha > \beta$

In exocentric dependency wherein α and β are the head and the dependent position, respectively, α strictly but not necessarily immediately follows β in phonetic interpretation.

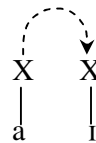
(14) a.



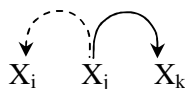
b.



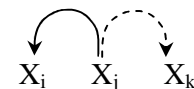
c.



(15) a.

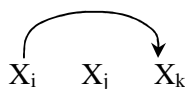


b.

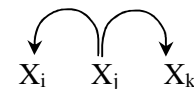


←----- Exocentric
 →----- Endocentric

(16) a.



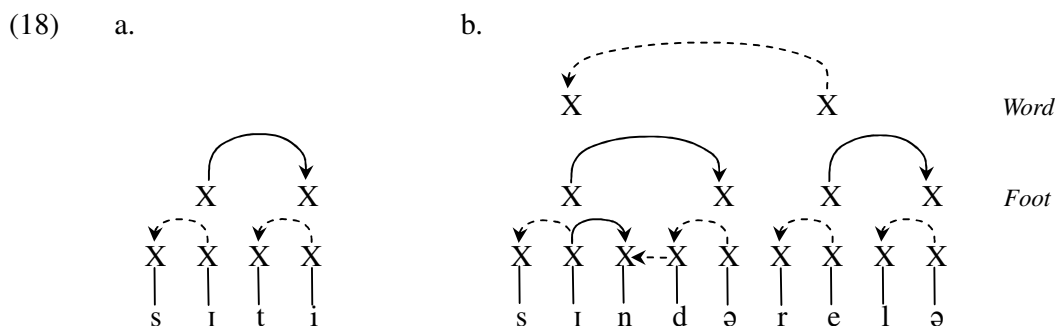
b. *



(17) UNIQUE PATH (Takahashi 2004: 184)

Let α and β be positions. A dependency path from α to β must be unique within a domain.

6 Linearisation of phonological structure



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