Phonetics and Phonology

Charalambos Themistocleous

[cons]

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

FEATURES

[sonor]

[later]

[strid]

[contin]

Oral Nasal Pharyngeal

Labial Coronal Dorsal Soft Palate Radical Glottal

[round] [anter] [distrib] [back] [high] [low] [nasal] [ATR] [RTR] [spread gl] [constr gl] [voiced]

Figure 1. Feature hierarchy (from Kenstowicz, 1994:146)

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/p/

[ − contin ]

Oral

\*Labial

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/b/

[ − contin ]

Oral Pharyngeal

\*Labial Glottal

[ +voiced ]

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/m/

[ − contin ]

Nasal Oral Pharyngeal

Soft Palate \*Labial Glottal

[ +nasal ] [ +voiced ]

+ cons

+ sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/t/

[ − contin ]

Oral

\*Coronal

[ +anterior ]

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/d/

[ − contin ]

Oral Pharyngeal

\*Coronal Glottal

[ +anterior] [ +voiced ]

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/n/

[ − contin ]

Nasal Oral Pharyngeal

Soft Palate \*Coronal Glottal

[ +nasal ] [ +anterior] [ +voiced ]

+ cons

+ sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/h/

Pharyngeal

Glottal

[ + spread gl ]

− cons

+ sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/ph/

[ − contin ]

Oral Pharyngeal

\*Labial Glottal

[ − voiced ]

[ + spread gl]

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/th/

[ − contin ]

Oral Pharyngeal

Coronal Glottal

[ + anterior] [ − voiced ]

[ + spread gl]

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/l/

[ − lateral ]

[ − contin ]

Oral

\*Coronal

[ +anterior ]

+ cons

− sonor

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/kw/

[ − contin ]

Oral Pharyngeal

\*Dorsal Labial Glottal

[ + round ]

[ − voiced ]

+ cons

− sonor

# Vowels

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/i/

Oral

Dorsal

[ + high ]

[ - low ]

[ - back ]

− cons

+ sonor

Any member of the UG phonetic alphabet can be generaterd by choosing the appropriate articulator and dependent feature(s), the cavity in which the articulator forms a stricture, and general characteristics of the degree and type of stricture, which lead to the segments identity as an obstruent, sonorant consnant, vowel.

The hierarchical tree provides a natural formalism to express that certain features refine distinctions in other features. For example, [+ distributed] is only relevant for the coronal articulator.

Stricture combines more freely to the root.

Problems

[ + continuant ] seems relevant to the oral cavity.

[ + lateral ] is always coronal.

[ + strident ] refers mostly to coronals but its appearance under labial depends on whether the bilabial [ β ] is labiodental [ v ] is best tread as one of stridency.

The major articulator is indicated with a star (\*).

Dependency//Dominance: higher level nodes dominate all the features that follow.

# Assimilation

**Single-feature assimilation:** the extension of a terminal feature or leaf.

**Partial assimilation:**  the information at some intermediate node in the graph spreads to an adjacent position.

**Complete assimilation:** it joins segments at the root.

## Voicing of verbal and nominal inflections

e.g., lets cats dog[z]

(1)

Glottali Glottalj

[ ± voiced ]

*where* Glottalj  is unspecified.

## let + s (lets)

le/t/

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/t/

[ − contin ]

Oral Pharyngeal

\*Coronal Glottal

[ +anterior ] [ − voiced]

+ cons

− sonor

/S/

[ + contin ]

Pharyngeal Oral

Glottal \*Coronal

[ +anterior ]

+ cons

− sonor

## beg + s (lets)

beg/z/

ROOT

STRICTURE

CAVITY

ARTICULATOR

TERMINAL

/g/

[ − contin ]

Oral Pharyngeal

\*Dorsal Glottal

[ + voiced]

+ cons

− sonor

/S/

[ + contin ]

Pharyngeal Oral

Glottal \*Coronal

[ +anterior ]

+ cons

− sonor

Regressive Assimilation

Five – fi/f/th the suffix {th} is voiceless and makes the /v/ voiceless, i.e., [f].

Glottali Glottalj

z

[ ± voiced ] [ − voiced ]

structure changing operation

z 🡪 delinking

[ v ] 🡪 [ f ] [ θ ]

ROOT

STRICTURE [ + contin ] [ + contin ]

[ − sonor ]

CAVITY Oral Pharyngeal Pharyngeal Oral

ARTICULATOR Labial Glottal Glottal Coronal

Z

TERMINAL [ + voiced ] [ − voiced ] [ + anter ]

+ cons

− sonor

+ cons

− sonor

Complete Assimilation

tin lemeso but ton Niko

tin lefkosia tin Nina

Time and Segments

(1) (2) (3)

X X X X X

[l] [l] [l] [l:]

(4)

X X

**Z**

**[ n ] [ l ]**

X X

**Z**

**/ n / / l /**

[ − contin ]

Nasal Oral Pharyngeal

Soft Palate \*Coronal Glottal

[ +nasal ] [ +anterior] [ +voiced ]

[ − lateral ]

[ − contin ]

Oral

\*Coronal

[ +anterior ]

+ cons

− sonor

+ cons

− sonor