Phonological Theories

Autosegmental/Metrical Phonology
Segmental description

Session 4

The Segmental Tier

The tree structures defining the feature geometry of sounds in language (N.B. I am not using the term “phoneme”) grow out of the “root” node.
That is the node which *brings together all the feature information*. I.e., it represents the whole segment (so for shorthand, we could write the transcription symbol there).
But what is the *function* of the node?
It is the link to the rest of the (phonological) system in an autosegmental (metrical) phonology.
The “rest of the system” means the structures above the level of the single sound = syllable level, prosodic word, phrase. . . etc.

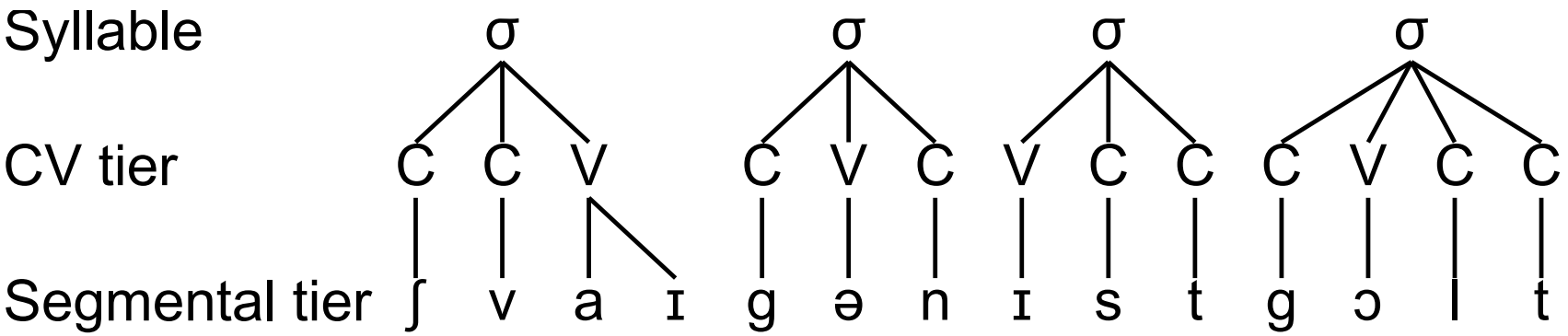
Segments: phonetic structure vs. function

The phonetic properties of a sound segment are *not always clear* in defining it as a *consonant* or a *vowel*!
(N.B., vowel + consonant(s) are the elements making a syllable)

- Approximants (a.k.a. “vowel glides”) are vowels, articulatorily
- Sonorants (nasals and laterals) can become syllabic
- Two different vowel qualities can, together, form one vowel
- Two different consonantal articulations can, together, form one consonant

There seems to be a need for a functional descriptive level between segment and syllable! The “*skeletal tier*”

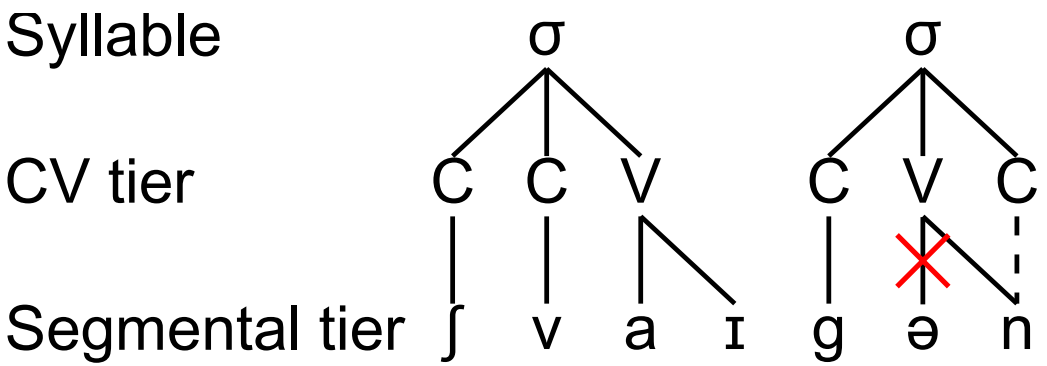
Function of the CV (skeletal) Tier



[aɪ] is defined here as the vocalic nucleus of the syllable [ʃvaɪ] as opposed to [aɪ] in (e.g.) “Schwa in der Mitte”, where it is divided over two syllables

[n] is defined here as the consonantal coda of the syllable [gən]. But if schwa is elided, it takes over the nuclear (V) function of the syllable

Function of the CV (skeletal) Tier



1. Every syllable has *one* V element
2. The V element *can* be *complex* (e.g. [aɪ])
3. If a vowel segment is elided (e.g. schwa elision):
   ʃvaɪgən → ʃvaɪgŋ
   another segment *must* be associated with the V element

This *representation* corresponds in function to the SPE-*rules* for “schwa-elision” *and* the application of the feature [+syllabic]

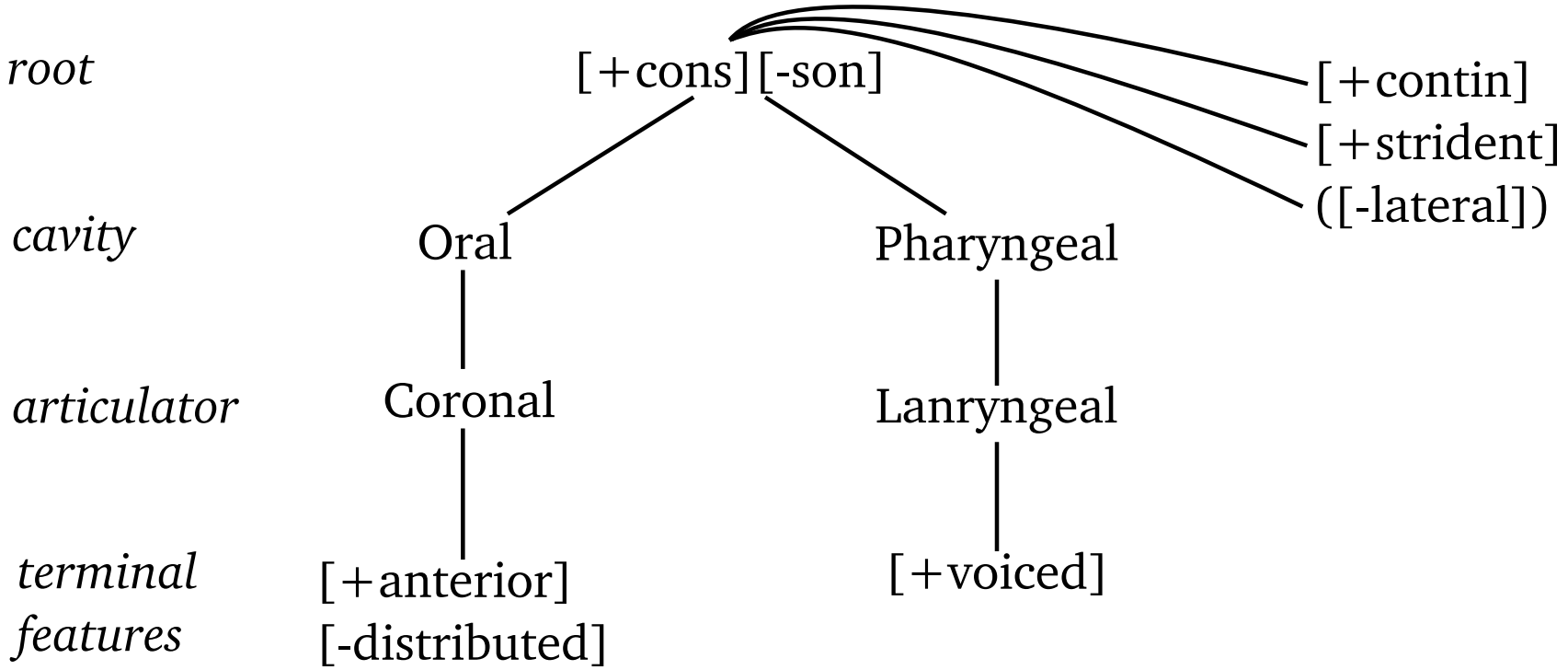
Change of Segmental Structure in autosegmental phonology

The change of *function* within the syllable does not change the *phonetic nature* of the sound.
It can therefore be represented without referring to the *feature properties* of the sound.
But most phonological changes *are* changes of phonetic structure.

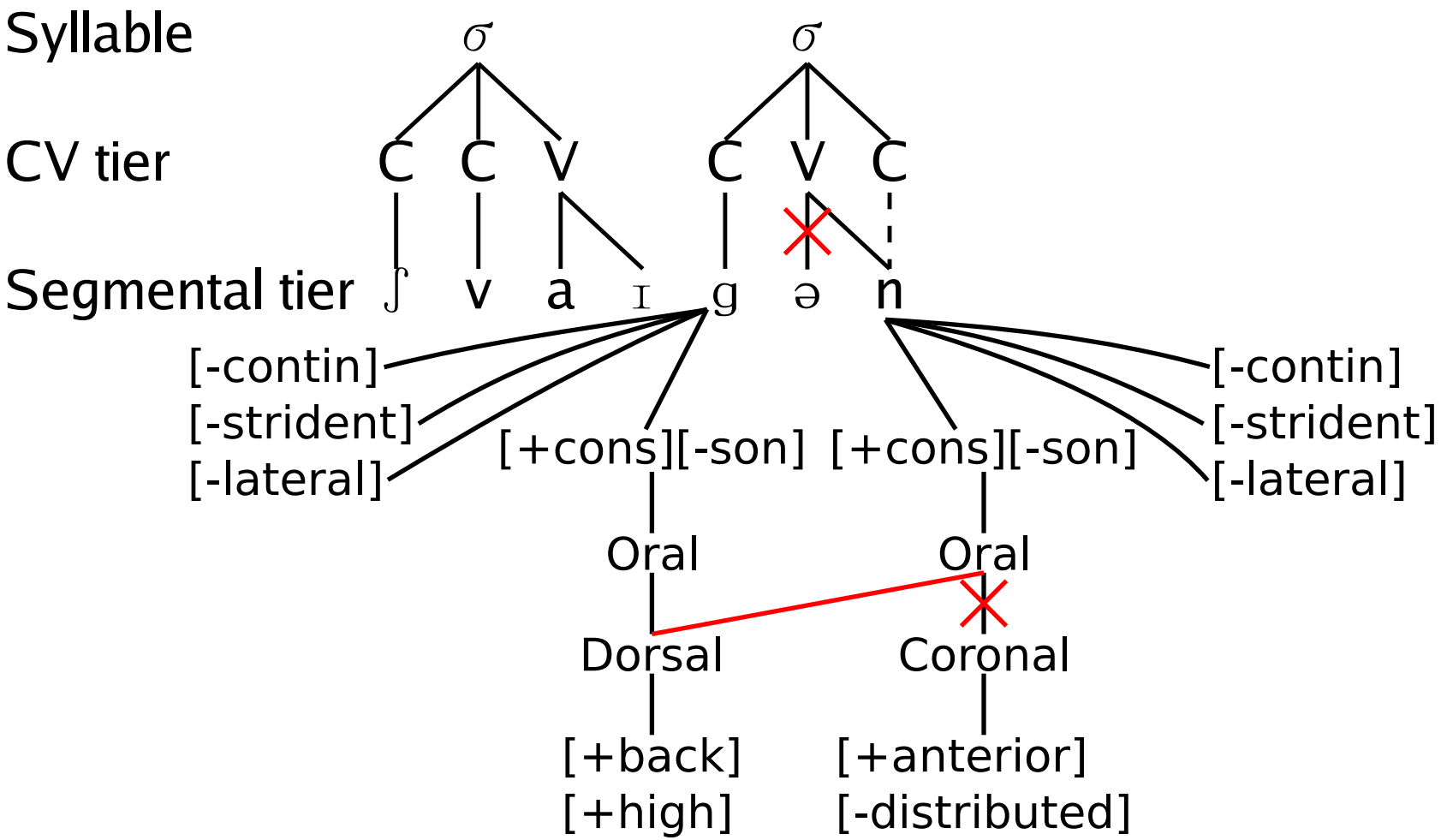
e.g.: voiced becomes devoiced
alveolar becomes labial or velar
a stop becomes a fricative

To represent these changes, we need to refer to the *features*, which constitute the *tree* linked to the *skeletal* tier via the *root* node

Reminder: Schema for /z/



Structural & feature change (cons. place of artic.)



SPE features

The criticism of the unordered bundle of features in SPE-Phonology stems from the observation that the transformation rules allowed *apparently arbitrary* changes of the feature structure.
A phonological rule should be a justifiable, describable phonetic generalisation.
This is the argument for the *hierarchical structure of features* which CLEMENTS, HALLE and others proposed, and which mirror the articulatory organisation of the features (more or less).

Structural change practice

1. How would the structural change for the following expressions be represented (in partial analogy to the previous slide)?

sieben	→	[ˈziːbm̩]
es steht gut	→	[ɛs ʃteːk guːt]
	→	[ɛʃ ʃteːk guːt]
lieblich	→	[ˈliːplɪç̩] vs. [ˈliːblɪç̩]
Schicksal	→	[ˈʃɪkz̥aːl] vs. [ˈʃɪksaːl]
leidig	→	[ˈlaɪdɪç̩] vs. [ˈlaɪdɪk]

2. Discuss how the structural change for the following expressions might be captured:

Haben Sie Lust?	→	[hamziˈlʊst]
Hast Du einen Moment Zeit?	→	[hasn̩moˈmɛnʔˈtsaɪt]