

24.901 Syllable-1

1. motivations for the syllable

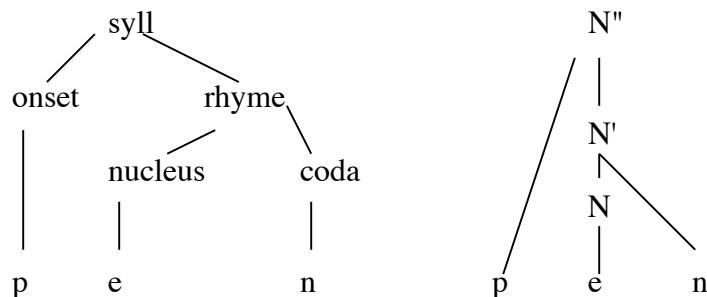
- phonotactic constraints: #tr, #str, *#tl, *#nt
- environment for rule:

| | |
|-----------|-----------|
| América | Montána |
| Nebráska | àrcáde |
| atrócius | Àtlántic |
| astrónomy | àrthrític |

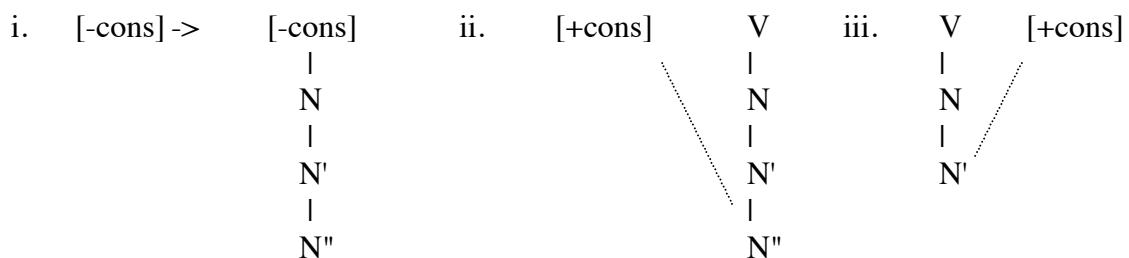
- rules of epenthesis and deletion

atom ≈ atomic vs. rhythm ≈ rhythmic
 dam<n> ≈ damnation, <p>neumatic ≈ apnea

2. syllable structure

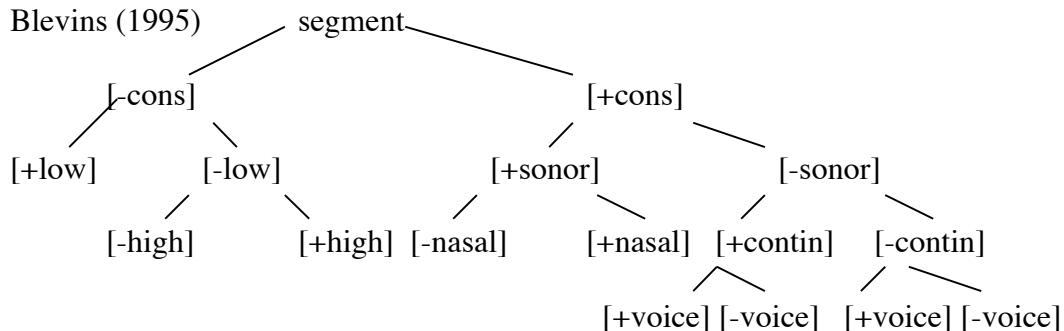


3. structure-building rules:



4. Tautosyllabic consonant clustering controlled by Sonority Sequencing Principle

- onsets rise in sonority
- codas fall in sonority
- sonority hierarchy: vowels > glide > liquid > nasal > obstruents
- subsidiary: fricative > stop, voiced > voiceless
- corresponds to energy in lower regions of spectrum

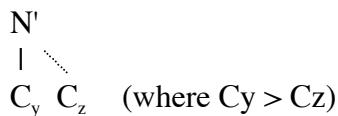


- left branch path has greater sonority than right branch path

5. onset augmentation



coda augmentation



6. case study: English (Kiparsky 19981, Clements & Keyser 1983)

(6) a. English onsets: two consonants

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| w | y | r | l | m | n | p | t | k |
| p | - | + | + | + | - | - | - | - |
| t | + | + | + | - | - | - | - | - |
| k | + | + | + | - | - | - | - | - |
| b | - | + | + | + | - | - | - | - |
| d | + | + | + | - | - | - | - | - |
| g | + | + | + | + | - | - | - | - |
| f | - | + | + | + | - | - | - | - |
| θ | + | + | + | - | - | - | - | - |
| ſ | - | - | + | - | - | - | - | - |
| s | + | + | - | + | + | + | + | + |

| | p[y]uke | priest | plate |
|--------|--------------|--------|-------|
| twin | t[y]une* | trap | |
| quit | c[y]ute | crawl | clean |
| dwell | beauty [byu] | brick | black |
| Gwen | d[y]une* | drip | |
| | ambig(y)uity | grip | glad |
| | fly]ume | free | flow |
| thwart | enth[y]use* | three | |
| | | shrill | |
| sweet | s[y]uit* | slip | smell |
| | | | snow |
| | | | spa |
| | | | stem |
| | | | skip |

7. filters: avoid same place of articulation (recall Arabic)

| $*N'$ | $*N''$ | $*N''$ | $*N''$ |
|----------|----------------|--------------------------------|---------------|
| / \ | / \ | / \ | / \ |
| lab lab | cor [+lateral] | -sonor X +contin +voiced | cor -anter |
| | | | |
| *pw, *bw | *tl, *dl | *vr, *zw | *tʃ, *ʃ |

8. special status of [s]

| | N'' | w | y | r | l | m | n |
|---|-----|----|---|---|---|---|---|
| s | / | sp | - | + | + | - | - |
| C | st | - | + | + | - | - | - |
| | sk | + | + | + | + | - | - |

9. codas:

| | | | |
|------|------|------|--------|
| [ɛ] | [e:] | [ɛ] | *[e:] |
| bell | bale | helm | [ejlm] |
| hem | aim | elf | [ejlf] |
| pep | tape | hemp | [ejmp] |

10. SSP

| | | |
|------|---------|--------|
| helm | | |
| elf | triumph | dam<n> |
| help | hemp | |

11. coronal edges:

depth, apse, adze, act, fifth, apt : violate SSP

wild, paint, fifths, sixths : violate length

12. outstanding problem; suggested solutions

- add by special rule
- adjoin to syllable or higher constituent
- leave unparsed
- posit empty syllable nucleus

13. medial vs. marginal clusters in Polish and the SSP

- longer clusters

- pstry [pstri] 'mottled', przestepstw [psetempstf] 'crime' g. pl.
- violations of SSP

| | |
|----------|---------------------------------------------|
| #NN, NN# | mnozyc 'multiply', hymn 'anthem' |
| #LNV | lnu 'linen' g.sg. |
| VNL# | kreml 'Kremlin' |
| #SOV | rtec 'mercury', lwy [lvi] 'lions' |
| VOS# | mysl 'idea', rytm 'rhythm', teatr 'theater' |

- penultimate stress rule shows that these clusters are not syllabic: cf. komu'nizm
- Rubach & Booij (1990) find that sonorant consonant violations of SSC licensed only at word margin: #lsn is possible but #sln is not; siostr 'sister' gen.pl' is possible but siosrt is not
- SSC controls word medial syllabification
- onset maximization: do.bry 'good' pa.t[s]ec 'look' are preferred parse while kon.takt 'contact' and par.tija 'party' are only possible parses: ko.ntkt, pa.rtija are impossible

14. mora subsyllabic unit of timing

- light syllables contain one mora and heavy syllables two
- in some languages ban on segments sharing the same mora
- Arabic dialects

Egyptian

| | | | |
|-----------|-----------|-----------|-------|
| 'walad | ki'taab | 'kalb | N |
| 'walad-i | ki'taab-i | 'kalb-i | my N |
| wa'lad-na | ki'tab-na | kal'b-ina | our N |
| 'boy' | 'book' | 'dog' | |

Mecca

| | | |
|-----------|-------------|-----------|
| 'walad | ki'taab | 'kalb |
| 'walad-i | ki'taab-i | 'kalb-i |
| wa'lad-na | ki'taab-ana | 'kalb-ana |

Palestinian

| | | |
|-----------|------------|----------|
| 'walad | ki'taab | 'kalb |
| 'walad-i | ki'taab-i | 'kalb-i |
| wa'lad-na | ki'taab-na | 'kalb-na |

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