

Ling 105
Sounds of Language

Tuesday, November 5, 2024

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Which is a possible word of English?

- lemg

Which is a possible word of English?

- lemg
- thole

Which is a possible word of English?

- lemg
- thole
- sprag

Which is a possible word of English?

- lemg
- thole
- sprag
- rtut

Which is a possible word of English?

- lemg
- thole
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- rtut
- pkin

Which is a possible word of English?

- lemg
- thole
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- pkin
- tirl

Which is a possible word of English?

- lemg
- thole
- sprag
- rtut
- pkin
- tirl
- fsem

Which is a possible word of English?

- lemg
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- tirl
- fsem
- spip

Phonotactics

- Constraints on segment sequences
- (Largely) implicit knowledge
- Often stated with respect to syllable structure
- An English **margin** (onset or coda) cannot contain [bn]
 - abnormality
 - glibness
 - *bnut (repaired to bənut)
 - *tubn (repaired to tubŋ)
- Language-specific; cf.
 - Santiago Matatlán Zapotec **bnax:za?** ♪
 - Classical Arabic **ibn** ♪

Syllable

- Onset, rime, nucleus, coda (as tree)
- Evidence for the rime
 - ① Rhyme
 - ② Phonotactics
 - ③ Speech errors (e.g. for *spoon feed*)
 - ④ Ludlings
 - ⑤ Syllable weight

Algorithm for syllabification

- Assume **onset maximization**
 - ① Project every vowel and syllabic consonant to a nucleus
 - ② Project every immediately pre-nuclear C to an onset
 - ③ Add as many additional Cs to onsets as possible
(where “possible” is any legal word-initial onset)
 - ④ Parse any left-over Cs into codas
 - ⑤ Group nuclei & codas into rimes
 - ⑥ Group onsets & rimes into syllables (σ)

VCV

- Per (2), VCV is always parsed V.CV
- What about e.g. *singer*?

Language-specificity

- (Traditional) Finnish: no complex onsets
- *Astoria* in English vs. Finnish
- **Geminates** always split between syllables (**ambisyllabic**),
e.g. Finnish *Anttila*

Syllable structure

- Across languages, codas are more **marked** than onsets
- Many languages forbid codas; none requires them
- Many languages require onsets; none forbids them
- VCV is universally parsed as V.CV (within morphemes)

Margin complexity

- A margin with 2+ consonants is **complex**
- Only some languages permit margin complexity
 - No margin may be complex (e.g. Japanese)
 - Any margin may be complex (e.g. English)
 - Only onsets may be complex (e.g. almost Spanish)
 - Only codas may be complex (e.g. Finnish)

Syllable structure

- Simplest possible: only CV allowed
- Rapa Nui, e.g. *Britain* is rendered [peretane]
- English is on the complex side, e.g. *strengths* [ŋkθs], *sixths* [ksθs], *twelfths* [ɪfθs]
- Georgian permits the world's most complex onsets

'prtskvna	“peeling”
'mts'vrtne.li	“trainer”
'gvprtskvni(s)	“he’s peeling us” ♪ ♪
'gvbrdyvnis	“he’s plucking us”

Sonority scale

- As a dichotomy: **sonorant** vs. **obstruent**
 - Sonorant = vowels, glides, liquids, nasals
 - Obstruent = plosives, fricatives, affricates
 - In English, voicing is contrastive only for obstruents
- As a scale: **sonority** (roughly, loudness or aperture)

<i>least sonorous</i>	plosive
•	affricate
•	fricative
•	nasal
•	lateral
•	rhotic
•	glide
<i>most sonorous</i>	vowel

Sonority cutoffs: nucleus

- Phonotactics often refer to cutoffs along this scale
- E.g. what can be a nucleus

Spanish	any vowel
Yurok	any vowel or rhotic
Sanskrit	any vowel, rhotic, or lateral
English	any vowel, rhotic, lateral, or nasal
Imdlawn Tashlhiyt Berber	any segment

Sonority cutoffs: nucleus

- Extreme cases: Berber dialects (e.g. Imdlawn Tashlhiyt), Salishan (e.g. Nuxáلك, a.k.a. Bella Coola)
- Nuxáلك word list

Sonority cutoffs: nucleus

- In Tashlhiyt, plosives can be nuclei, but only if no higher sonority nucleus is available
 - /tktk/ → [tk.tk], but
 - /lklk/ → [l.klk]
- Thus, sonority still matters in such a language

Sonority sequencing principle

- Sonority profile of a syllable tends to look like a hump
- Onsets tend to rise
- Codas tend to fall
- What can come after /k/ in an English onset?
 - *kw*- as in *queen*
 - *kj*- as in *cute*
 - *kɹ*- as in *crumb*
 - *kl*- as in *clone*
 - Any vowel
- But not *kn*-, *km*-, *kf*-, *ks*-, *kt*-, *kp*-, etc.
- Sonority cutoff?

Sonority sequencing principle

- What can come before /k/ in a coda?
 - -ɪk as in *ark*
 - -lk as in *ilk*
 - -ŋk as in *bank*
 - -sk as in *ask*
 - Any vowel or glide
- But not -fk, -tʃk, -pk, -tk, etc.
- (-mk and -nk are ruled out by assimilation, not sonority)
- Sonority cutoff?

Sonority sequencing principle

- Some languages allow certain violations
- English *s* at beginning or end of syllable
- French final coda, e.g. *cycle* [sikl]