

LINGUIST 168 Introduction to Linguistic Typology

LECTURE 9: PHONOLOGICAL TYPOLOGY

SYLLABLE STRUCTURE AND STRESS

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Plan for today

- **syllable structure**
 - › syllable complexity
 - › Sonority Hierarchy
- **prosodic typology**
 - › stress

Typology of syllable complexity

- Frequency/commonality of syllable type correlates with complexity:

simpler

more complex



likely to be possible in
most languages

likely to be possible in
few languages

appears more frequently

appears less frequently

Generalizations about syllable type complexity

- The least complex syllable type is **CV**
- Lack of onset is more complex than one-consonant onset
 - › **V** is more complex than **CV**
- Any additional consonants in onset or coda increase complexity
 - › **CCV** is more complex than **CV**
 - › **VCC** is more complex than **VC**
- Complex onsets are more complex than complex codas
 - › **CCVC** is more complex than **CVCC**

Ranking of syllable types (poll)

less complex



CV

no coda > simple coda

CVC

simple coda > complex coda

CVCC

complex coda > complex onset

VC

CCVC

simple coda > complex coda

VCCC

complex coda > complex onset

more complex

CCCV

Typology of syllable complexity: **CV is simplest**

- There are languages that only allow CV syllables and there are no languages that do not allow CV syllables.
 - › Hawaiian (Austronesian > Oceanic)
 - › Mba (Niger-Congo > Ubangi)

Hawaiian:

mi.ka 'mister'

pe.la 'mattress'

Parker Jones. (2018). Hawaiian. *Journal of the IPA*, 48(1), 103-115.

<https://doi.org/10.1017/S0025100316000438>

<https://wals.info/chapter/12>

Typology of syllable complexity

- ~12.5% of languages only allow (C)V syllables
 - › Rotokas (West Bougainville)
 - › Swahili (Niger-Congo > Bantoid)
 - › Samoan (Austronesian > Oceanic)

Samoan:

tu.si 'write'

a.ta 'picture'

<https://wals.info/chapter/12>

Typology of syllable complexity

- ~ 56% of languages allow for syllable structure up to CCVC
 - › Darai (Indo-European > Indic)
 - › Spanish
 - › Japanese
 - › Mandarin

Darai:

bwak 'his father'

<https://wals.info/chapter/12>

Typology of syllable complexity

- ~31% allow syllables more complex than CVCC

English:
strengths /**st**ɪŋkθs/

Russian:
/v**str**iɛtʃa/ 'meeting'
/g**orst**ka/ 'little pile'

Georgian (Kartvelian):
/m**ts**'vrtneli/ 'trainer'
/g**vpr**tskvni/ 'You peel us'

Questions?

Plan for today

- **syllable structure**
 - › syllable complexity
 - › Sonority Hierarchy
- **prosodic typology**
 - › stress

Constraints on onset and coda: sonority

- Complex syllables are generally organized based on **sonority**
- **Sonority** ~ loudness relative to other sounds, with less interference

Sonority

- Vowels are most sonorous
 - › loudest and longest
 - › engage vocal cords
 - › no obstruction in oral cavity
- Voiceless stops are least sonorous
 - › /t p k ?/
 - › least amplitude and shortest
 - › vocal cords not engaged
 - › maximal obstruction in oral cavity

Poll:

<https://bit.ly/3n5e1fQ>

Consonant sonority scale

higher sonority

lower sonority



approximants
rhotics
/l r ɹ/

nasals
/n m/

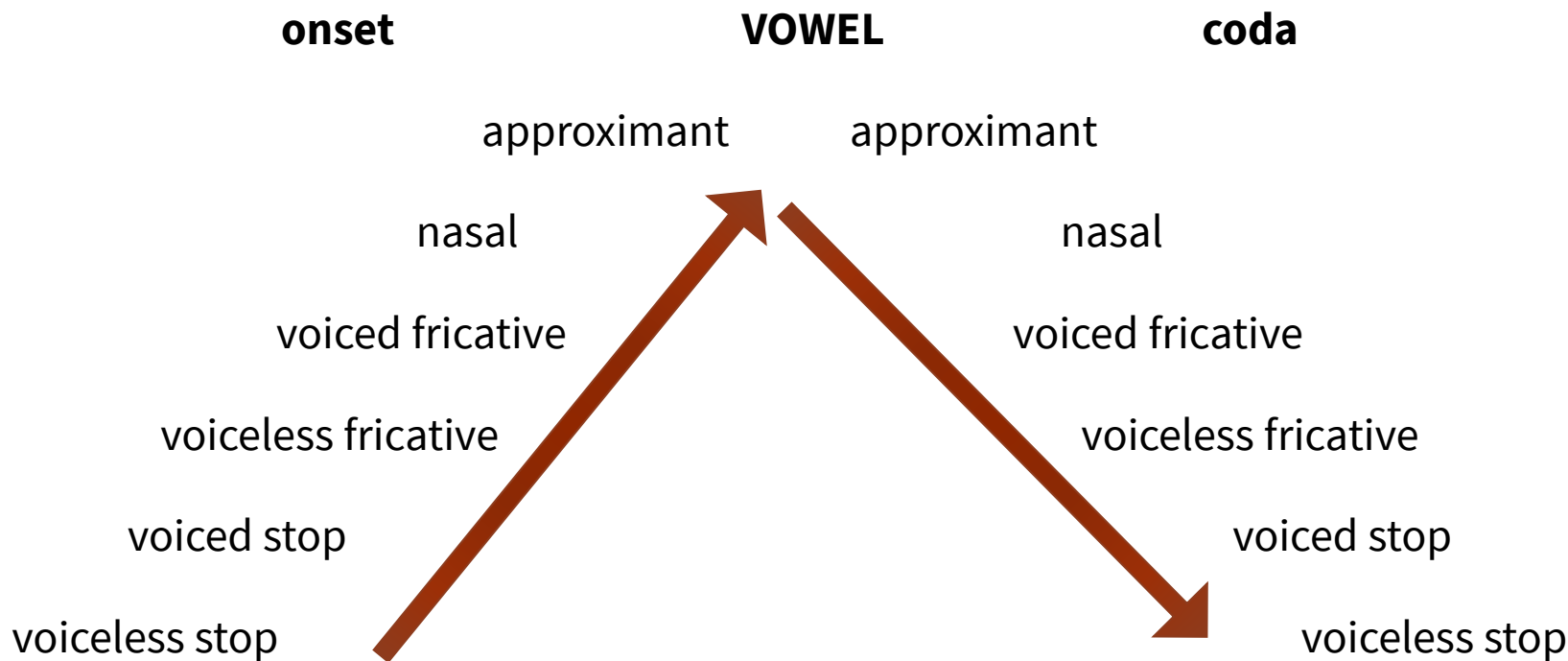
fricatives
voiced > voiceless
/v z ð/ /f s θ/

stops
voiced > voiceless
/b g d/ /p k t/

Generalization about sonority in syllables

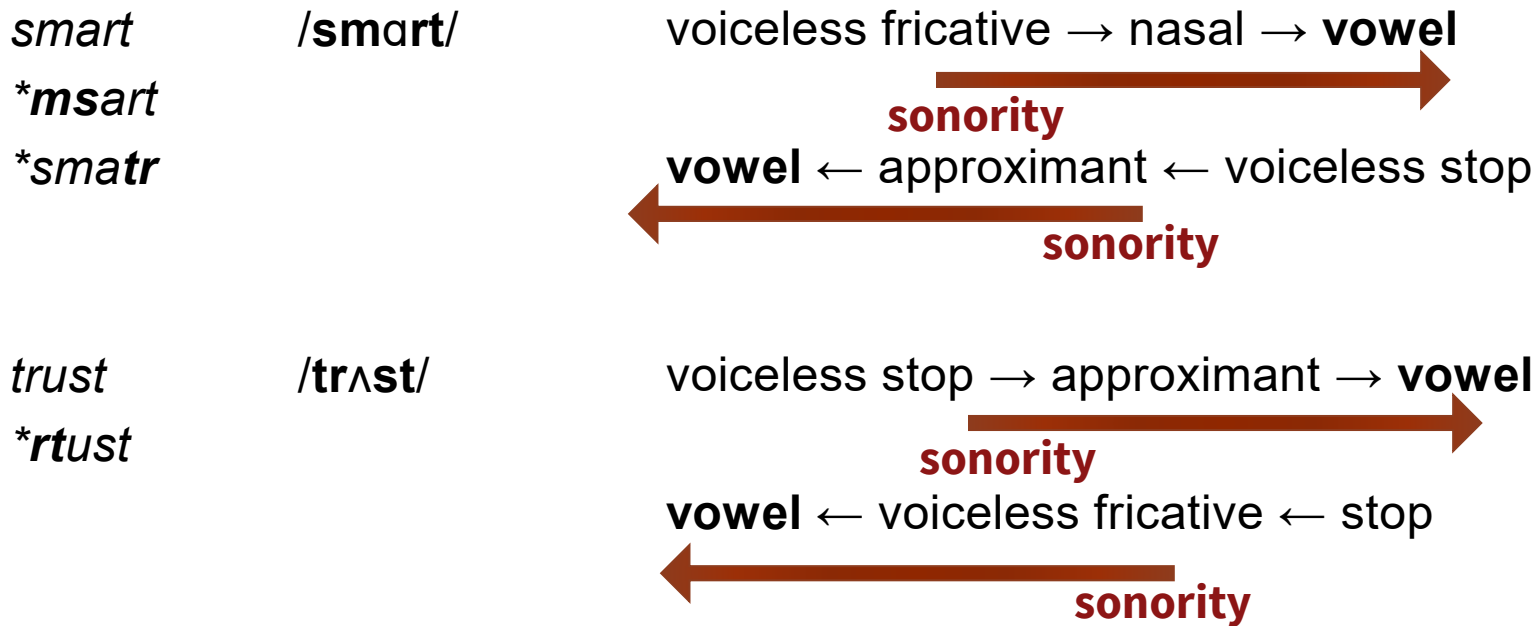
- In most languages, in complex codas or onsets there is a preference for **the higher sonority member of the cluster to occur closer to the nucleus.**
- = sonority rises the closer you are to the nucleus (the vowel)

Sonority rises, the closer a consonant is to the nucleus.



adapted from Moravcsik. 2013. Introducing language typology. CUP.

Examples of sonority hierarchy: English



Examples of sonority hierarchy: Russian

/brat/ 'brother'

voiced stop → trill → **vowel**

sonority



/svjet/ 'light'

voiceless → voiced fricative → **vowel**

sonority



/pjerst/ (obsolete) 'finger'

vowel ← voiceless fricative ← stop

sonority



Activity

1. Come up with (up to) three examples conforming to the Sonority Hierarchy in English and/or another language.
2. Come up with (up to) three examples violating the Sonority Hierarchy.

Syllable structure: summary

- languages differ in permitted syllable complexity
- the simplest type of syllable is CV
- syllables tend to be constrained based on the Sonority Hierarchy:

sonority rises closer to the nucleus

