

Phonological approaches to word stress

Day 1:
Basics

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EGG School 2026, Brno

Some fundamental issues this course addresses

- What is stress? How do we produce / perceive it?
- What is the relationship between stress and rhythm?
- How can stress be represented phonologically?

Basic day-to-day program (subject to change)

- Monday – Basics / syllable structure I
- Tuesday – Syllable structure II
- Wednesday – Stress & foot inventory I
- Thursday – Stress & foot inventory II
- Friday – Selected empirical issues and other approaches to stress

What is stress?

- General questions:
 - What are ‘typical’ correlates of stress?
 - Is there a fixed number of correlates across languages?
 - What are your intuitions?

Some of the most important phonetic correlates of stress

- Attraction of (intonational) tones
- Higher pitch
- Longer duration / lengthening of stressed syllables
- Higher intensity
- Lenition in unstressed syllables (reduction / deletion)
- Fortition in stressed syllables (vowels / consonants)

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Attraction of intonational tones

- Prominent pitch movements commonly take place in stressed syllables
- Commonly regarded as the strongest correlate, but rather as a correlate of sentential stress rather than word stress / lexical stress

Citation / Declaratives



(a) p e r m i t (noun)



(b) p e r m i t (verb)

Question



(a) p e r m i t (noun)



(b) p e r m i t (verb)

taken from Ladd (2008)

Question I

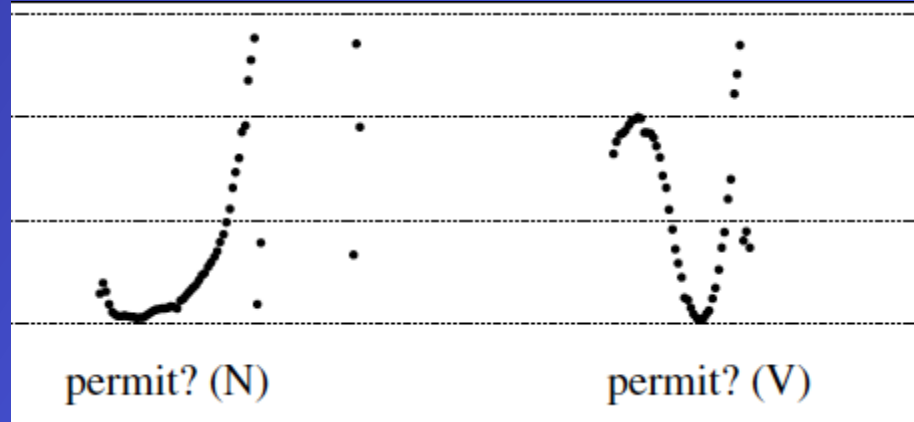


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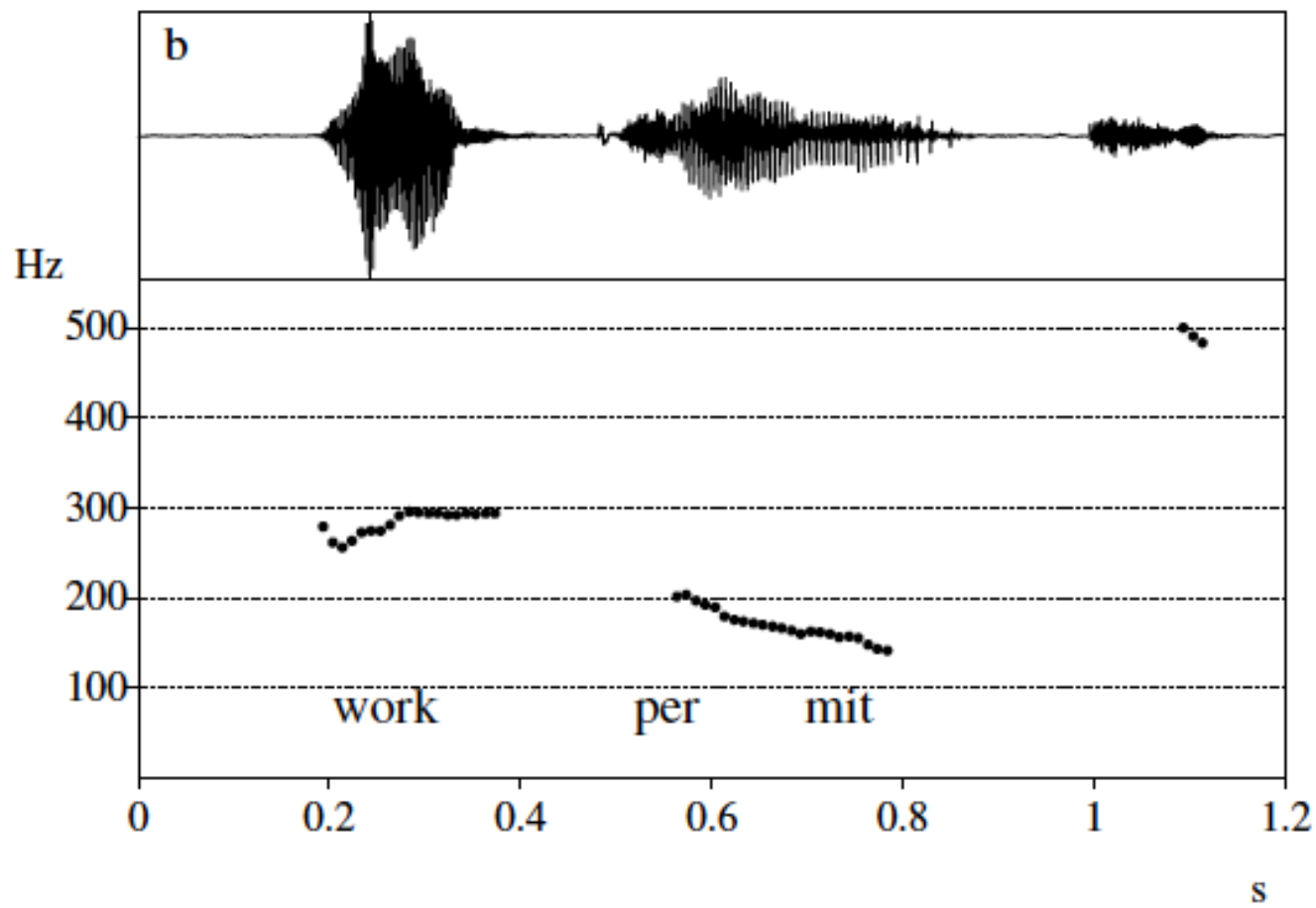
Question II

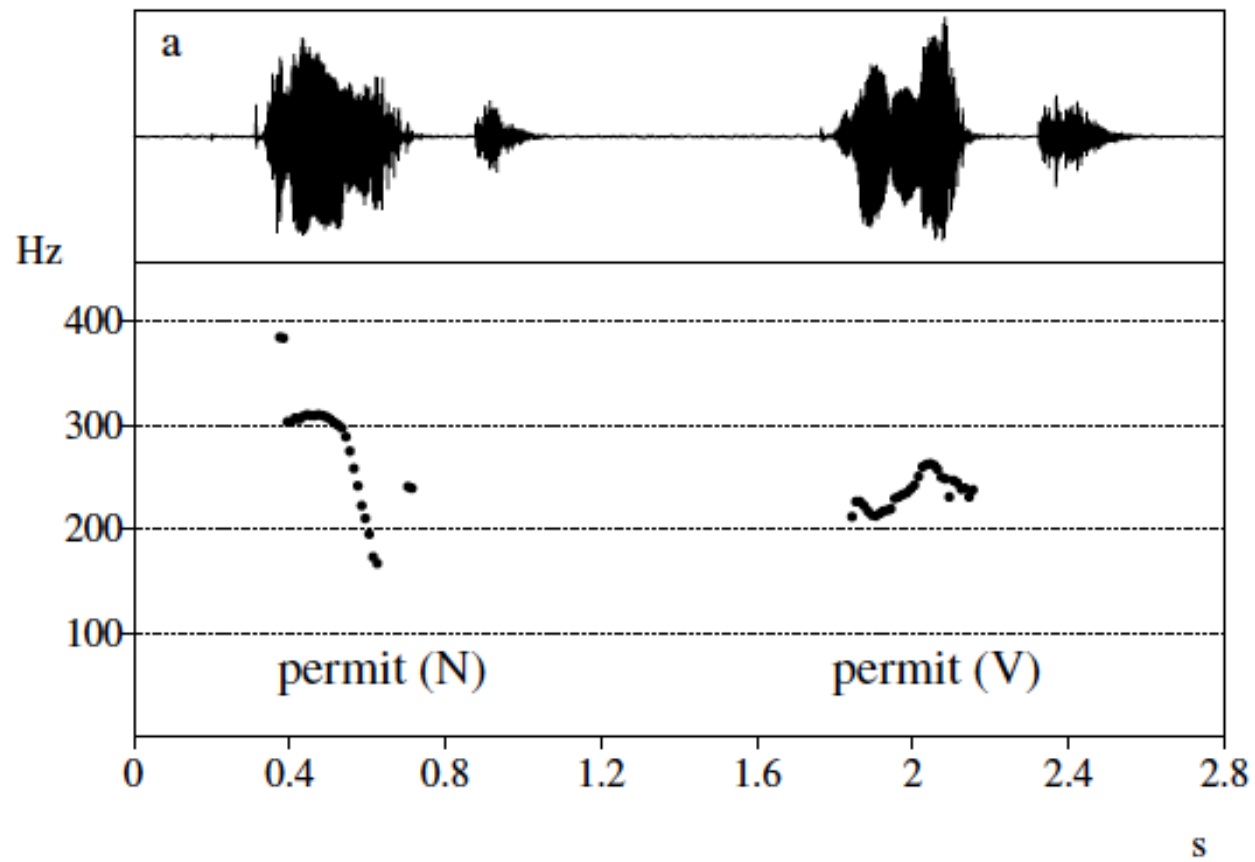


taken from Gussenhoven 2004

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Vowel lenition

- Vowel reduction / vowel deletion are widely observed phonological processes in unstressed syllables
- Can also be a phonetic process (spectral reduction, e.g. Van Heuven & de Jonge 2011)

Vowel reduction in English

- Vowels are often reduced in unstressed syllables (e.g. to schwa)
- [ˈkʌntɛkst] vs. [kənˈtɛkstuəl]
- → The full vowel appears in stressed syllables, the weak / reduced vowel in unstressed syllables

Vowel reduction in Dutch

- Dutch has optional vowel reduction in unstressed syllables (e.g. Kager 1989, Booij 1995, Van Oostendorp 1995)
- Several factors influence reduction
- We will look at the basic patterns

Vowel reduction in Dutch

- Unreduced: [ˌfo.no.lo.ˈxi] ‘phonology’
- One unstressed vowel reduced: [ˌfo.nə.lo.ˈxi]
- Both unstressed vowels reduced: [ˌfo.nə.lə.ˈxi]
- Impossible: *[ˌfo.no.lə.ˈxi]
- Question: (how) can we express this in phonological terms?

Vowel deletion in English

- In English, vowels can sometimes be deleted if they occur in unstressed syllables
- Example: [təmeitou] ~ [tmeitou]

Vowel reduction / deletion in German

- In the history of German(ic), we can see a quite complex change in the behavior of vowels in unstressed syllables
- Three stages
 - Umlaut
 - Reduction to schwa (center of the vowel triangle)
 - Deletion of schwa (many dialects)

But: reduction does not always work in the same way

- Reduction to the center: e.g. Germanic
- Reduction to the corners: e.g. Belarussian (/e/ and /o/ reduce to /a/)

(1) Vowel Neutralizations in Belarusian (Krivitskii and Podluzhnyi, 1994)

Vowels Under Stress

'noʲi	'legs'
'kol	'pole' (nom.)
'vʲosnʲ	'spring' (gen.)
'mʲot	'honey' (n.)
'ʃept	'whisper'
'reki	'rivers'
'spʲetsʲ	'to ripen'
'klʲej	'glue'

Same Vowels Unstressed

na'ʲa	'leg'
ka'la	'pole' (gen.)
vʲa'sna	'spring' (nom.)
mʲa'dovʲ	'honey' (adj.)
ʃap'tatsʲ	'to whisper'
ra'ka	'river'
pa'spʲavatsʲ	'to mature'
klʲa'jonka	'oil-cloth'

Consonant lenition

- Lenition: weakening of consonants in non-prominent positions
- Still a good overview: de Carvalho, Joaquim Brandão, Tobias Scheer, and Philippe Ségéral, eds. *Lenition and fortition*. Vol. 99. Walter de Gruyter, 2008.

One example from English

- Flapping: in many varieties of English, /t/ is flapped to [ɾ] in the onset of unstressed syllables (intervocalically and after sonorants)
- /sɪti/ → /sɪɾi/

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Fortition in Dutch

- Glottal stop is inserted in stressed syllables that start with a vowel
- [lxa.os] 'chaos'
- [xa.lo.tis] 'chaotic'

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