Exam Registration

- Everyone who plans to take the exam needs to sign up online
- Register via SignUp: https://studium.informatik.uni-heidelberg.de:9443/SignUp/as/Student/login.jsp
- Or: Homepage Anglistisches Seminar -> "Im Studium" -> "SignUp" -> "Klausuranmeldung": click on "SignUp"

Demo film: http://www.as.uni-heidelberg.de/downloads/AnmeldungAS.htm
(Or: "Klausuranmeldung" click on "Film zur Demonstration")

Semester Outline

1. Phonetics and phonology: basics
   (& introducing transcription)
2. English consonants
3. English vowels
4. Beyond the phoneme (connected speech, suprasegmentals etc.)
5. Accents of English

Beyond the Phoneme: Outline

1. Connected Speech
2. Syllable
3. Word Stress
4. Sentence Stress = SUPRASEGMENTALS
5. Intonation
Connected Speech

Phenomena of connected speech:
- **weakening**: reduction of vowels and sometimes elision of sounds;
- **weak forms**: weakening that occurs when function words occur in connected speech
- **linking** (liaison): link between sounds or words in connected speech (e.g. linking r, intrusive r)
- **assimilation**
- **elision**

Weak forms & linking /intrusive r

**TASK:**
Where in these sentences is a linking r or an intrusive r in RP likely?

*Far away in the distance, I saw four elefants pulling a car. And then, I saw another one over at the lake.*

Which words would be realized as weak forms in these sentences?
*There was a noise over there, but it wasn't clear what was happening. Before I realized it, he had escaped and we were left behind.*

Assimilation

**What is assimilation?**

A sound (mostly a consonant), becomes more like, or identical with, a neighbouring sound regarding one or more of its distinctive features

Example: *ten pigs /tɛn pɪɡs/ → /tɛm pɪɡs/ (because of bilabial /p/, nasal becomes bilabial)*

Assimilation

**Classification of assimilation processes:**

1. types of assimilation
2. direction of assimilation
3. assimilation with allophonic versus phonemic variation
4. obligatory vs. optional assimilation
Assimilation

Types of assimilation:

1. assimilation of place of articulation
   Example: alv. /d/ → dent. /d/ (width)
   /l, v, b /

2. assimilation of manner of articulation
   Example: alv. plosive /d/ → alv. nasal /n/ /g, d, n, t/ → /g, n, n, t/ /t, d/ → /t, d/ (loves, plays)

3. assimilation of energy of articulation
   Example: 3rd person fortis /s/ → lenis /z/ /l, C, V / (loves, plays)

4. assimilation of voice
   Example: voiced [r] → voiceless [r] /p, t, k/ → (proud, trick, crib)

Assimilation

Sometimes, different types of assimilation occur simultaneously:

Example: Tuesday, shut your mouth

- place of articulation: palatal → palatoalveolar
- intensity of articulation: lenis → fortis
- manner of articulation: approximant → fricative
  (narrower gap between speech organs)

Assimilation

Direction of assimilation:

1. progressive assimilation (A → B)
   e.g. voiceless [p, t, k] → voiceless [r]

2. regressive assimilation (A → B)
   e.g.: dental [d] → dental [θ, ɒ]
Assimilation

Assimilation with allophonic or phonemic variation:

1. allophonic variation (as learned); obligatory
2. phonemic variation
   a) obligatory (unassimilated form no longer exists; end point of an historical process) and must be transcribed, e.g.
      - multi-word units, e.g. /v/ \rightarrow /f/ in have to, of course; /l/ \rightarrow /f/ used to
      - contracted 's (has/is) as learned
      - morpheme realizations (-s, -ed) as learned
   b) optional and may be transcribed, e.g.:
      - /n,t,d/ \rightarrow /m,p,b/
      - /n,t,d/ \rightarrow /n, k,g/
      - /f/ \rightarrow /p,j,r/

Elision

Elision = omission of one or more sounds in spoken language

Already encountered:
- in weak forms (e.g. /on/ for and)
- elision of /t/ in GA after /n/ (winter)
- elision of vowels (e.g. elision of schwa before syllabic consonant: bottom, garden)

Elision

Elision of consonants (often to simplify consonant clusters):

- facts /faksts/ \rightarrow /faks/
- clothes /kləublz/ \rightarrow /klouz/ (GA: /kloʊz/)
- months /mʌnts/ \rightarrow /mʌnts/(GA: /mʌnts/)
- old man /old man/ \rightarrow /əld man/ (GA: /əld man/)
- next, please /nɛks pliz/ \rightarrow /nɛks pliz/

Task: Try saying Henry the Sixth's three advisers
1) Without elision
2) Naturally \rightarrow which consonants would you omit?
Beyond the Phoneme: Outline

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= SUPRASEGMENTALS

Connected speech

Areas covered:
- weakening (weak forms)
- linking (linking r, intrusive r)
- assimilation:
  - types (of place, manner, energy, voice)
  - direction (progressive, regressive)
  - allophonic vs. phonemic variation
  - obligatory vs. optional assimilation
  - elision

The Syllable

try → /traɪ/ → monosyllabic
sentence → /senˈtəns/ → disyllabic
phonetics → /foʊˈneɪtiks/ → trisyllabic
supra-segmentals → /suːˈprəʊsəməntəlz/ → polysyllabic

Syllable Structure

Phonetic description of a syllable: obligatory nucleus (centre, peak) + optional onset and coda; nucleus: produced with little or no obstruction of air (usually a vowel); onset and coda: produced with greater obstruction of air (consonant(s))
The Syllable

- minimal syllable: only nucleus, i.e. single vowel (I /æ/, RP are /a/, RP err /ɔ/)
- some syllables consist of an onset and peak only:
  e.g. my /mæ/, RP bar /bæ/ (= open syllables)
- some consist of peak and coda only: at /æt/, ice /aɪ/ (= closed syllables)
- some consist of onset, peak and coda: mine /main/, cat /kæt/ (= closed syllables)

The Sonority Scale

Description of a syllable in terms from auditory phonetics: the sounds occurring a the peak are more sonorous than the ones at the margins.

Sonority = the inherent loudness of a sound, or its 'carrying-power'; dependent on the degree and type of obstruction

Obstruents: air-flow impeded to such a degree that sound has a noise component -> fricatives and plosives

Sonorants: air-flow not impeded to a degree that causes noise -> voiced nasals, approximants, and vowels

But: sonority is really a matter of degree

The Sonority Scale

Syllabic Consonants

- syllabic consonant = a consonant is the peak of a syllable
- only relatively sonorous consonants can be syllabic
- in English: /n/ /ŋ/ (both frequent), /m/, /ŋ/ / (less frequent); /r/ in GA
- diacritic: [n]
- such consonant-centred syllables can only occur together with a 'normal' syllable
- syllabic consonants occur in environments in which /s/ could or does occur in slow speech
Syllabic Consonants

In slow speech: In normal speech:

- **student**: /stjuː-dənt/ /stjuː-dənt/ [dənt]
- **table**: /teɪ-bɔl/ /teɪ-bl/ [bɭ]
- **rhythm**: /rɪ-ðəm/ /rɪ-ðm/ [ðm]

But remember: /ns/ cannot be [ŋ] in the following contexts:

- / nas. __ cannon, German
- / nas.+plos. __ London(!), Washington

Phonotactics

**Phonotactics**: the rules of possible phoneme combinations in a language

-> phonotactics tells us which words are possible in a language:

- /plɛm/ plam
- */ŋəʊbɪ/ ngoby

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Some Possible Syllables in English

- V: I /ai/
- CV: two /tʊz/
- VC: up /əp/
- CVC: cat /kæt/
- CVCC: cats /kæts/
- CCV: tree /tri/
- CCVC: trees /trɪz/
- CCCVCC: treats /trɪtʃs/
- CCCVCCCC: strands /strændz/
- CCCVC CCC: glimpsed /ɡlɪmptʃ/
- CCCVCCCCC: strengths /streŋkθs/

Constraints on Syllable Structure in English (Collins/Mees 2003, 73)

1. /s/ never occurs in onsets.
2. /h, j, w/ never occur in codas.
3. /r/ never occurs in codas in non-rhotic varieties of English.
4. The lenis fricatives /v, ð, z, ð/ never occur in onset clusters.
5. In three-element onset clusters the initial consonant is always /s/.
6. /t, d, ɹ/ never combine with /l/ in onset clusters.
7. Nasals never combine with plosives or affricates in onsets.
8. Nasals and plosives combining in codas are always homorganic.
Task
Which of the following are permissible syllables in English? Why?
/vwaːks/
/sprɔːθs/
/kraːʃ/
/draːw/
/dliːn/

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=SUPRASEGMENTALS:
features that extend over more than one segment

Word Stress
Stress is indicated in transcription by stress marks:

\( ^{1} \) = primary stress
\( _{1} \) = secondary stress

/ɪəˈdɛt/
/ˌekspləˈnetʃn/

What is stress?
There are four variables that contribute:

- intensity (greater breath effort and muscular energy; perceived as greater loudness)
- pitch variation (higher pitch meaning stronger stress); pitch = Tonhöhe
- vowel quality (in unstressed syllables we often have vowel reduction to central /a/ or also /ʌ/)
- vowel duration (English vowels are shorter in unstressed than in stressed syllables)
Word Stress

- in some languages (e.g. Italian), stress always falls on the same position in the word
- English, in contrast, has lexically designated stress, e.g.:
  Monday '1-2
  prefer 1'-2

Word Stress: Some Common Patterns in English

- '1-2-3 wonderful
- '1-2-3 suspicious
- '1-2-1'3 engineer
- '1-2-3-4 personally
- '1-2-3-4 phonology
- '1-2-1'3-4 scientific
- '1-2-3-4-5 Protestantism
- '1-2-3-4-5 Catholicism
- '1-2-3-4-5 possibility
- '1-2-3-4-5 characteristic

Word Stress: Some Common Patterns in English

- '1-2-3-4-5 transformationally
- '1-2-3-4-5 characterization
- 1-2-3-4-5-6 inferiority

Word Stress

Some suffixes that invite primary stress on the suffix itself:
- -ade (nouns): parade
- -ain (verbs): abstain
- -ee (nouns): addressee
- -eer (nouns): engineer
- -esque (adj., nouns): grotesque
- -ess (verbs): assess
- -ique (nouns): critique
- -self/-selves: herself
Word Stress

SOME SUFFIXES THAT INVITE PRIMARY STRESS ON THE SYLLABLE DIRECTLY PRECEDING THE SUFFIX:

-ative: alternative
-ative: positive
-client: ancient
-cient: deficiency
-eous: outrageous
-eous: propriety
-ial: superficial
-ic: melancholic
-ical: radical
-ical: occasion
-itude: multitude
-ity: incredulity
-ive: attentive
-ual: perpetual
-ous: conspicuous
-wards: outwards

Suffix –ary, -ory:

\[
\text{s\_} \quad /\text{o}r\text{i}/ \quad \text{ satisfactory}
\]
\[
\text{\textbf{a\_\textbf{r}}y, \textbf{-ory}} \quad /\text{e}\text{\textbf{n}} \text{\textbf{t}}\text{\textbf{y}}\text{\textbf{e}}\text{\textbf{r}}/ \quad \text{ temporary}
\]

→ pattern '1-2-3-4 exists in GA, but not RP

Word Stress: Compounds

Compounds either have

- initial element stress:
  - paperback, orange juice, safety belt or
double stress:
  - paper bag, upper-class

Most compound place-names have double stress,
e.g. Notting Hill, New York, Silicon Valley,
Trafalgar Square, Fifth Avenue, Paddington
Station, Piccadilly Circus, Hyde Park, Park Road,
Park Drive; Exception: road names ending in
Street, e.g. Park Street

N.B. German Buckingham Pa,last
English Buckingham Palace

Word Stress

Stress shift examples:

method /'me\text{\textbf{th}}\text{\textbf{od}}/ \quad '1-2
methodical /'me\text{\textbf{d}}\text{\textbf{th}}\text{\textbf{ik}}\text{\textbf{e}}/ \quad '1-2-3
certain /'\text{\textbf{sa}}\text{\textbf{r}}(t)\text{\textbf{n}}/ \quad '1-2
ascertain /'\text{\textbf{a}}\text{\textbf{s}}\text{\textbf{t}}\text{\textbf{er}}\text{\textbf{t}}\text{\textbf{e}}\text{\textbf{rn}}/ \quad '1-2-3
politics /'pol\text{\textbf{t}}\text{\textbf{iks}}/ \quad '1-2-3
political /'pol\text{\textbf{t}}\text{\textbf{ik}}\text{\textbf{e}}/ \quad '1-2-3-4
politician /'pol\text{\textbf{t}}\text{\textbf{i}}\text{\textbf{n}}\text{\textbf{t}}/ \quad '1-2-3-4
**Word Stress**

Contrastive Stress:

- We speak of *contrastive stress* when two words have the exact same segmental structure and are only distinguished by stress:

  ![Example](/example.png)

  *insult*  
  `/ɪnsʌlt/`  
  = verb  
  `/ɪnsəlt/`  
  = noun

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**Beyond the Phoneme: Outline**

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**Sentence Stress**

In connected speech, function words tend to receive no stress:

*I've heard that Jack and Jane spent their holidays in Jamaica.*

Exceptions:

- If the speaker wants to particularly emphasise the function word (e.g., for contrast)
- *wh*-words functioning as interrogative pronouns (*where, why, which*) and demonstratives (*this, that, these, those*) are usually stressed

In more rapid speech, the number of unstressed syllables in a sentence increases, and more content words are also unstressed:

*I've heard that 'Jack and 'Jane spent their 'holidays in Ja'maica.*

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**Sentence Stress**

Rhythm:

In English, sentence stress is the basis of *rhythm*:

- Stressed syllables occur at roughly regular intervals, no matter how many unstressed syllables come in between

  (*= stress-timing; ≠ syllable-timing*)

*What are the I 'plans for to-' morn-ow, I 'John?*
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=SUPRASEGMENTALS: features that extend over more than one segment

Intonation

- intonation (pitch movement)
  - the variation of pitch over stretches of speech
- pitch = Tonhöhe
- pitch is the result of the frequency (i.e. speed of vibration) of the vocal folds
- in some languages (= tone languages), pitch differences can be used to distinguish the meaning of words (e.g. Mandarin Chinese)

Intonation

Four functions of intonation:

- **grammatical function**: intonation can signal the syntactic role of an utterance
- **focusing function**: intonation can mark the most important information
- **attitudinal function**: intonation can signal the attitudes a speaker has towards what they are saying or towards other people
- **discourse function**: intonation can be used to indicate to a conversation partner whether it is his/her turn or not

Intonation

Task: Try saying “HAS he?” with two different intonations; in the first case expressing something like “that’s great!”, in the second something like “who cares?”

Chris has written a wonderful book on phonetics.

- **HAS** he?  (great!)
- **HAS** he?  (who cares?)
Intonation

- the basic unit of intonation is the intonation group (or tone group)
- intonation groups often, but not necessarily, correspond to grammatical clauses
- an intonation group consists of a syllable which carries the main stress (= nucleus) and optionally of unstressed and less heavily stressed syllables preceding or following the nucleus

Examples of intonation groups:

WHEN?

WHEN did you say you would ARRIVE?

When he finally ARRIVED, he discovered his friends had already LEFT.

REGRETTABLY, he discovered his friends had already LEFT.

(Do you really want to leave?)

I don’t KNOW.

I DON’T.

NO.

Intonation

- the nucleus normally is the last very prominent syllable in the intonation group
- the main pitch movement of the intonation group is in the nucleus (nuclear tone); it is either restricted to the nucleus or continues to the end of the tone unit

Types of intonation patterns / nuclear tones:

- fall: WHERE do you LIVE (neutral question)
- rise: WHERE have you BEEN (angry parent to a child)
- fall-rise: I’ll BE there SOON (reassurance)
- rise-fall: The FILM was WONderful (emphatic statement)
Intonation

New trends in intonation: High-Rising-Terminal (HRT)

- HRT = rising tones at the end of an intonation group which is not a question
- mostly used by younger people, especially by women
- seems to grow in use in all English-speaking countries
- seems to be used in order to appear less assertive

Revision Part IV

Connected speech:
- assimilation:
  - types (of place, manner, energy, voice)
  - direction (progressive, regressive)
  - allophonic vs. phonemic variation
  - obligatory vs. optional assimilation
- elision: consonant clusters, syllables

Syllable:
- articulatory description: onset, nucleus, coda
- closed vs. open syllables
- auditory description: nucleus more sonorous than onset and coda (sonority scale!)

Revision Part IV

Syllable continued:
- syllabic consonants
- phonotactics (possible syllables; constraints on syllable structure)

Word stress:
- phonetic variables: intensity, pitch variation, vowel quality, vowel duration
- lexically designated stress
- common word stress patterns (in general; for words with certain suffixes; difference RP-GA; compounds)
- stress shift; contrastive stress

Sentence stress:
- function words vs. content words
- rhythm (stress-timed vs. syllable-timed rhythm)

Intonation:
- pitch (speed of vocal fold vibration)
- tone languages vs. intonation languages
- functions (grammatical, focusing, attitudinal, discourse)
- intonation group (nucleus = last very prominent syll. + less heavily stressed syllables)
- intonation patterns (fall, rise, fall-rise, rise-fall)
- High-Rising Terminal
Revision Part IV

1) In phonetics, the term nucleus can refer to two different things. Define briefly.

2) In what respect(s) and why are the underlined vowels different in the following words:

a) content (noun) vs. content (verb)
b) trainer vs. trainee

3) Is it likely that the second or the third syllable in historical is elided in rapid speech? Why or why not?

4) A speaker pronounces ten bikes as /'ten bɪks/. Which phenomenon is at work here (be precise)?

Revision Part IV

Are the following statements true or false?

1) The maximal syllable in English consists of three consonants in the coda, a vowel, and four consonants in the onset.
2) /hʌk/ is a possible word in English.
3) All consonants except approximants are sonorants.
4) The noun decrease and the verb decrease can be said to have contrastive stress.
5) Stress-timing means that stressed syllables occur in roughly equal intervals in a language.
6) Function words can receive sentence stress.
7) High-Rising-Terminals are only used by women.
8) English is a tone language, because it uses intonation to change the meaning of an utterance.