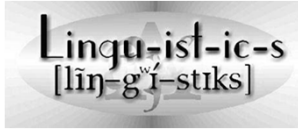


LNGT0101

Introduction to Linguistics



Lecture #14
Oct 27th, 2014

Announcements

- Screening of *The Writing Code* next week. I'll send a Doodle poll.
- Midterm is now posted. It's due Monday Nov 3rd by 5pm.
- If you have not turned in HW3, you have to turn it in by midnight. I plan to post suggested solutions for HW3 tomorrow morning.

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Today's agenda

- Phonetic transcription.
- Coarticulation processes.
- Talk about prosodic features: Syllable structure and phonotactics.

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Transcription

- **Phonetic transcription** is a representation of the pronunciation of a word using IPA symbols. It is typically given between [].
- Transcription could be **broad**, in which case a minimal amount of phonetic detail is given, or **narrow**, in which case more detailed phonetic differences are provided (e.g., aspiration of voiceless stops and nasalization of vowels).
- The difference is illustrated on the next slide.

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Broad vs. Narrow Phonetic Transcription

Word	Broad Transcription	Narrow Transcription
?	[ɹenɪŋ]	[ɹeɪnɪŋ]
?	[lɛktʃə] or [lɛkjə]	[lɛktʃə] or [lɛkjə]
?	[saʊndz]	[saʊndz]
?	[fənɛtrɪks]	[fənɛtrɪks]
?	[tʌŋg]	[tʰʌŋg]

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Transcribing sentences

Broad:

[nɒm tʃɑmski ɪz e lɪŋgwɪst hu tɪtʃɪz æt ɛm aɪ ti]

Narrow:

[nɒm tʃɑmski ɪz ə lɪŋgwɪst hu tʰɪtʃɪz æt ɛm aɪ tʰi]

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How to type transcriptions in IPA

- [Link to an interactive chart to insert IPA symbols.](#)
- This is quite useful for phonetic transcription exercises.

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Notes on phonetic symbols

- A couple of things to note about the difference between the IPA chart and your textbook.
- First, the IPA symbol for American English 'r' is [ɹ], but your book uses regular [r] (which is the symbol for the trill in the IPA).
- Second, the book uses [ɑ] for the low back vowel in words like 'hot,' while the symbol for this sound on the IPA chart is [ɒ]. (The IPA [ɑ] is actually the British sound in 'fast'.)
- Whatever system you use, be consistent!

Transcription exercise

- In groups of 3, work on the transcription exercises on the handout.

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Speech production and coarticulation

Speech production and coarticulation

- So far, we described sounds as if they are articulated in isolation. Of course, this is not the case in connected speech. Sounds are typically produced while more than one articulator is active.
- As a result of this *coarticulation*, sounds may get to affect neighboring sounds in speech (as we've seen in nasalization for example).
- These are called *articulatory processes*. We discuss a few today.

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Assimilation

- Assimilation is an articulatory process whereby a sound is made "similar" to a neighboring sound in one of the three categories of consonant articulation: manner, place, or voicing.

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Assimilation in manner of articulation

- Vowel nasalization in English is an instance of **regressive** assimilation in manner:

can't [k^hæ̃nt]

- Assimilation can also be **progressive**, as in Scots Gaelic:

[nē:l] “cloud”

[mū:] “about”

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Assimilation in place of articulation

- Nasal consonants typically assimilate to the place of articulation of the following sound.

From English:

[m] + possible → impossible [mp]

[m] + tangible → intangible [nt]

[m] + complete → incomplete [ŋk]

- Question: Is this a case of regressive or progressive assimilation?

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Assimilation in voicing

- While liquids and glides are voiced sounds, when preceded by a voiceless stop, they get “devoiced.” We indicate that by a [̥] below the devoiced liquid or the glide. Examples:

place [p]eɪs̥

quick [kwɪk̥]

trim [tɹɪm̥]

- Similarly, voiceless sounds may become voiced in the neighborhood of voiced sounds, e.g., Dutch *af* [af] (=“over”) is pronounced with a [v] in the words *afbellén* (=cancel) and *afdekken* (=cover).

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Revisiting English plural allomorphy

- Can you now explain why the plural -s morpheme is pronounced differently in these three groups of nouns?

- cats; lamps; sacks

- cads; suns; dogs

- kisses; buzzes; brushes; garages; batches; judges

Revisiting English plural allomorphy

- Can you now explain why the plural -s morpheme is pronounced differently in these three groups of nouns?

- cats [kæts]; lamps [læmps]; sacks [sæks]

- cads [kædz]; suns [sʌnz]; dogs [dɔgz]

- kiss [kɪsəz]; buzzes [bʌzəz];

brush [brʌʃəz]; garages [gəɹɑʒəz];

batches [bætʃəz]; judges [dʒʌdʒəz].

Dissimilation

- Dissimilation is an articulatory process whereby two sounds are made less similar.

From English:

fifths

[fɪfθs] → [fɪfts]

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Deletion

- Deletion is a process which removes a sound from certain phonetic contexts. From English:

suppose [sə'pʰoʊz] → [spʊʊz]

- Deletion may also occur as an alternative to dissimilation for some speakers in words like *fifths*:

fifths [fɪfθs] → [fɪfs]

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Epenthesis

- Epenthesis is a process that inserts a sound. From English:

something [sʌmθɪŋ] → [sʌmpθɪŋ]

length [lɛŋθ] → [lɛŋkθ]

- In Turkish, a sequence of two initial consonants is not allowed. As a result, a vowel is epenthesized to break the consonant cluster:

“train,” which is borrowed from English, is pronounced as [tɪɾen]

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Metathesis

- Metathesis is a process that changes the order of sounds. Children learning English will typically produce metathesis forms, e.g., *spaghetti* is typically pronounced as *pesghatti* [pəskɛɾi].

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Vowel reduction

- In many languages, vowels in unstressed syllables undergo reduction, typically appearing instead as the weak vowel [ə]:

Canada ['kʰæ̃nədə]

Canadian [kʰə'neɪdɪən]

- This is typical of function words in English, e.g.,

- Prepositions *of* [əv] and *from* [fɪəm]

- Auxiliaries like *can* [kən] as in [aɪ kən go]

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More than one process?

- Now, let's look at these German data:

Careful speech

laden [la:dən]

loben [lo:bən]

backen [bakən]

Informal speech

→ [la:dn] “to load”

→ [lo:bm] “to praise”

→ [bakŋ] “to bake”

- What's going on here?

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Syllables

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Syllable structure

- Native speakers' knowledge of syllable structure is manifest in several ways:
 - They can count the number of syllables in a word.
 - They know where to draw syllable boundaries.
 - They rely on syllabification in rhyming and in games like Pig Latin.
 - And as we will see in phonology, they internalize phonological rules that do make reference to the unit 'syllable.'

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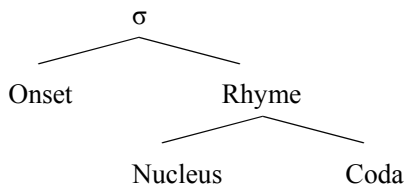
Syllable structure

- Sounds combine to form larger units called **syllables**.
- A syllable must contain a **nucleus** (typically a vowel) and may also contain consonants before or/and after the nucleus.
- The consonants before the nucleus vowel are called the **onset** of the syllable, whereas the consonants after the vowel are referred to as the **coda** of the syllable. The nucleus and coda are also assumed to form one unit called the **rhyme**.

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Syllable structure

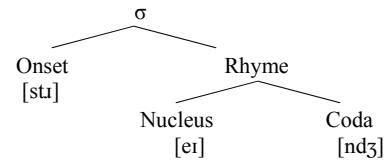
- We can represent syllable structure as in the following diagram, where σ = syllable:



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Syllable structure

- For example, a word such as *strange* [steɪndʒ] has [eɪ] as nucleus, [stɪ] as onset, and [ndʒ] as coda. We can represent this syllable type as CCCVCC, and hierarchically as below:



Note: Diphthongs count as one V slot, and affricates count as one C slot.

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Examples of syllable structures in English

- [ɪeɪ.nɪŋ] CV.CVC
- [sɑʊndz] CVCCC
- [fə.ne.tɪks] CV.CV.CVCC

- Notice that we mark a syllable boundary with a dot.

Syllable structure

- English is rather unusual in allowing a large number of syllable structures. Compare with other languages (N for 'a nasal C'):

Hebrew	Japanese	Hawaiian	Indonesian
CV	V	V	V
CVC	CV	CV	VC
CVCC	CVN		CV
			CVC

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Syllable structure

- All languages have syllables. The shapes of these syllables are governed by various constraints. Some universal tendencies are observable though. For example,
 - (a) Syllable nuclei usually consist of one vowel.
 - (b) Syllables usually begin with onsets.
 - (c) Syllables often end with codas.
 - (d) Onsets and codas usually consist of one consonant.
- Given these tendencies, the most common syllable structure in human languages is CV and CVC.

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Phonotactics

- When languages allow consonant clusters in onset and coda positions, there are typically constraints on the kind of consonants that occur in these clusters. We call such sequential constraints on the occurrence of consonants *phonotactics*.
- Languages differ in what is regarded as a permissible combination of consonants in each. English, for example, does not allow words to start with [ŋ], whereas Vietnamese does.

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Phonotactics

- English may have up to three consonants in onset position (as in [spreɪ]), but Arabic does not allow that.
- In fact, in English, there is a further restriction in the case of a CCC-onset that the first C has to be [s], the second has to be a voiceless stop (i.e. [p], [t], or [k]), and the third has to be a liquid or a glide (i.e. [l], [r], [j], or [w]).
- Compare that with Russian onsets in the following words:
[fslux] “aloud” [mgla] “fog”

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Phonotactics

- Another example of phonotactic constraints in English is the impossibility of words like [btɒl], where two stops occur initially.
- English also does not allow two long vowels in a row. [miun] is bad.
- Knowledge of phonotactics is part of your subconscious knowledge of your native language.
- This knowledge allows native speakers to distinguish between what is a possible word in their language and what is an impossible word.
- This phonotactic knowledge is also the reason why native speakers syllabify words correctly.

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Syllabic Consonants

- In English, nasals and liquids can function as syllable nuclei when they occur in an unstressed syllable at the end of a word after any consonant. In narrow phonetic transcription, syllabic consonants are marked by an under-stroke [,̩]. Examples:

tunnel [tʰʌn̩l̩] *ladder* [læd̩ɹ̩]
chasm [kʰæz̩m̩] *button* [bʌt̩n̩]

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Next class agenda

- We do phonology. Read Chapter 6, pp. 224-235 and 241-252, and the section on phonological analysis on pp. 260-264.