LNGT0101
Introduction to Linguistics

Lecture #12
Oct 26th, 2015

Announcements

• Check your inboxes for HW2.

• Average score on HW 2 is 46.

• Any questions on Homework 3, or otherwise?

Announcements

• We have 3 volunteers for Thursday’s discussion of language and social media/textspeak.

• [http://www.nytimes.com/2012/05/06/technology/creating-a-language-for-the-web.html?_r=3&ref=todayspaper&](http://www.nytimes.com/2012/05/06/technology/creating-a-language-for-the-web.html?_r=3&ref=todayspaper&)


• 2-point extra credit towards homework score for those who attend.

What you must not do on your HW

• [http://www.nytimes.com/2012/05/06/technology/creating-a-language-for-the-web.html?_r=3&ref=todayspaper&](http://www.nytimes.com/2012/05/06/technology/creating-a-language-for-the-web.html?_r=3&ref=todayspaper&)


Discussion of Anderson’s article

• How many languages are there in the world?

Today’s agenda

• Introduce phonetics.

• Introduce the IPA chart.

• Describe consonants.
Phonetics

• Phonetics is the study of speech sounds in human language.
• In this class we’ll be mainly concerned with articulatory phonetics.

Spelling and speech

The one-l llama,
He’s a priest.
The two-l llama,
He’s a beast.

And I will bet
A silk pajama
There isn’t any
Three-I Illama.

Ogden Nash

Spelling and speech

• Even though alphabetic spelling is meant to represent the pronunciation of words, it is not always reliable in figuring out how a word is pronounced. Why?

• Different letters may represent the same sound:
  
to too two through threw clue shoe

Spelling and speech

• A single letter may represent different sounds:
  
dame dad father call village many.
• A combination of letters may represent a single sound:
  
ship chrome phonetics
• Some letters have no sound at all in certain words:
  
know numb sword

Spelling and speech

• Spelling may also fail to represent sounds that are actually pronounced:
  
futility university
• Also, one letter may represent two sounds:
  
box Xerox
• Finally, the majority of human languages do not have a writing system, which makes spelling completely irrelevant for pronunciation in these languages.

Introducing the IPA

• If we cannot rely on spelling, then what do we do?
• Linguists rely on a special alphabet to represent speech sounds in human language: The International Phonetic Alphabet (IPA).
• The IPA represents speech in the form of individual sounds like [p], [s], [a], etc.
Some IPA links

- Link to the chart
- Link to an interactive chart to insert symbols on the class website.
- There is also this website for the IPA chart with audio files.
- Or Listen to IPA sounds by downloading the software available HERE.
- And another LINK with animations for the sounds of American English, German, and Spanish.

Main issues

- Consonants vs. vowels.
- Vocal tract.
- Describing consonants.
- Describing vowels.

Consonants vs. Vowels

- There are two major types of sounds in human language: consonants and vowels. How do they differ?
- In terms of articulation, consonants are produced when the airflow is obstructed in the vocal tract, while vowels are produced with relative free flow of the airstream in the vocal tract.
- Both consonants and vowels can be described in terms of a number of individual articulatory features.
- But let’s look at the human vocal tract first.

The vocal tract

Articulation of consonants

- Consonant sounds are characterized in terms of three main phonetic properties:
  a) place of articulation,
  b) manner of articulation, and
  c) voicing.

American English consonants

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>dental</th>
<th>alveolar</th>
<th>palatal</th>
<th>velar</th>
<th>glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop (palatal)</td>
<td>( \text{p} )</td>
<td>( \text{b} )</td>
<td>( \text{p} )</td>
<td>( \text{b} )</td>
<td>( \text{p} )</td>
<td>( \text{b} )</td>
<td>( \text{p} )</td>
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<tr>
<td>Nasal (palatal)</td>
<td>( \text{m} )</td>
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<tr>
<td>Fricative</td>
<td>( \text{f} )</td>
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<tr>
<td>Glide</td>
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<tr>
<td>Liquid (alveolar)</td>
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</tbody>
</table>
American English consonants

<table>
<thead>
<tr>
<th>Place of Articulation</th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stops (oral)</td>
<td>p</td>
<td>t</td>
<td>k</td>
<td>h</td>
<td>y</td>
<td>y</td>
<td>n</td>
</tr>
<tr>
<td>Stops (nasal)</td>
<td>m</td>
<td>n</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricatives (voiced)</td>
<td>f</td>
<td>v</td>
<td>s</td>
<td>z</td>
<td>t</td>
<td>d</td>
<td></td>
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<tr>
<td>Fricatives (voiceless)</td>
<td>w</td>
<td>y</td>
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<td>Liquids (voiced)</td>
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<td>Liquids (voiceless)</td>
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</tr>
</tbody>
</table>

• **Labial**, e.g., *bilabial* [p] and *labiodental* [f].
• **Dental**, e.g., *French* [d] in *dire*. English has *interdental* [θ] as in *thorn* and [ð] as in *there*.
• **Alveolar**, e.g., [t], [s], [n], and [l].
• **Alveopalatal**, e.g., [ʃ] as in *shoe*, [ʒ] as in *vision*, [tʃ] as in *choose*, and [dʒ] as in *jam*.
• **Palatal**, e.g., [j] in *yes*.

Manner of articulation

• Speech sounds are also differentiated by the way the airflow is affected as it travels from the lungs up and out of the mouth and nose. This is referred to as the manner of articulation for the sound.

Places of articulation

• **Labial**, e.g., *bilabial* [p] and *labiodental* [f].
• **Dental**, e.g., *French* [d] in *dire*. English has *interdental* [θ] as in *thorn* and [ð] as in *there*.
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• **Palatal**, e.g., [j] in *yes*.

Stops, Fricatives, and affricates

• **Stops**, e.g., [b], [p], [t], [d], [k], [g], and [ʔ].
• When the air escapes through the nasal, rather than the oral, cavity, *nasal stops* are produced, e.g., [m], [n], and [ŋ].
• **Fricatives**, e.g., [f], [v], [s], [z], [θ], [ð], [ʃ], [ʒ], and [h].
• **Affricates**, e.g., [tʃ] as in *church*, and [dʒ] as in *jump*.

• **Velar**, e.g., [k], [g], and [ŋ], the last one is the final sound in *king*.
• **Uvular** consonants: These are produced by raising the back of the tongue to the uvula, e.g., French [ʁ] and Arabic [q].
• **Pharyngeal** consonants: These are produced at the pharynx, e.g., Arabic [h] and [ʕ].
• **Glottal** consonants: These are produced at the glottis, e.g., [h] in *hill* and [ʔ] in *uh-oh*. 

• Check the Spanish and German links as well.

• [http://www.uiowa.edu/~acadtech/phonetics/#](http://www.uiowa.edu/~acadtech/phonetics/#)
Fricatives and affricates

- Acoustically, fricatives and affricates can be divided into two types based on their relative loudness. The noisier ones are called stridents (aka as sibilants): [s], [z], [ʃ], [ʒ], and [ʒ]), whereas the quieter ones are called ([θ] and [ð]) are nonstridents.

Liquids (aka Approximants)

- Liquids: In the production of these sounds, there is some obstruction of the airflow in the mouth, but not enough to cause any real constriction or friction, e.g., [l] and [r].
- [l] is called a lateral sound, because the air escapes through the sides of the tongue.

Liquids (aka Approximants)

- There are several varieties of “r” in the world’s languages. The “r” could be a trill, as in Spanish perro (=‘dog’), in which case it is transcribed as [r].
- The “r” could also be a retroflex, as the case is in American and Canadian English, and is transcribed as [ɹ] in the IPA.
- Another sound commonly identified with “r” is the flap, which occurs in North American English in words like writer and rider. This sound is transcribed as [ɾ].

Glides (aka Semi-vowels)

- Glides, e.g., [j] as in yes and [w] as in wood.
- Some English speakers produce a voiceless glide at the beginning of words like when, which, and where. It is transcribed as [ɹ].[w].

Voicing

- Consonant sounds are also divided into two types, voiced and voiceless, based on whether they are produced with or without vibration of vocal cords.
  - [b], [d], and [z] are voiced.
  - [p], [t], and [s] are voiceless.

Describing consonants

- A consonant can thus be described in terms of these three parameters: place of articulation, manner of articulation, and voicing.
- For example, [p] is a bilabial, voiceless stop, whereas [z] is an alveolar, voiced fricative.
- Now, describe [f], [m], and [w].
Visit this link for the articulation of the consonants of American English (German and Spanish are also available, so have a look at these as well).

Notice that there are some differences between this link and your textbook concerning phonetic terms and symbols, but it is a very useful link, particularly the animated diagrams.

Next class agenda

- Vowels.
- Phonetic Transcription.
- Syllable structure. Read the section on prosodic features in Chapter 6, pp. 252-255.