INTD0111A

The Unity and Diversity of Human Language

Lecture #14
April 1st, 2009

Announcements

- Reminder: The fourth lecture in the linguistics series is today at 4:30pm in RAJ.
- The Piraha discussion.
- The Writing Code screening.

Transition

- Since "Language = Lexicon + Grammar", then change should be expected to take place in both the lexicon and the grammar of a language.
- Types of Language change:
  - (a) Lexical   (b) Semantic
  - (c) Morphological   (d) Syntactic
  - (e) Phonological

Transition

- On Monday we saw examples of how languages can change over time lexically, semantically, and morphologically.

- Today, we finish discussion of morphological change. Then, we look at examples of change in syntax. Afterwards, we do a basic introduction to phonetics and phonology, as a prelude to our discussion of language change in pronunciation.

Morphological change cont.

- On Monday we talked about the following aspects of morphological change:
  - Loss of morphology.
  - Borrowing of affixes.
  - Grammaticalization.
- Today we talk about a few other ways in which the morphology of a language changes.

New affixes from compounding

- A common source for new affixes lies in compounding. A [N+N] compound with a certain N in a certain position may become the model for a new suffixation rule due to the fact that the second N is reanalyzed as a suffix. A new affix may thus arise from compounding, as illustrated by the case of Dutch *boer* :

New affixes from compounding

- In Dutch the free form *boer* means "farmer". We find this form as the second part of many complex words where it merely means "supplier/seller of":

groenteboer	"one who sells vegetables"
visboer	"one who sells fish"
kolenboer	"one who sells coals"
patatboer	"one who sells French fries"

New affixes from "false" analysis

- New affixes may also arise from a *false* analysis of words that have a morphological structure:

  alcoholic leads to *work**aholic**, choc**aholic**, shop**aholic***

  hamburger leads to *cheese**burger**, fish**burger**, chicken**burger***

New affixes out of "nowhere"

- In some cases, there's no morphological structure at all, or at least not one that falls within the realm of English morphology:

  Watergate leads to *Irangate, contragate*

Extending affixes to new categories

- Sometimes, morphological change takes place when an affix is used with categories that it normally does not apply to, thereby deriving new words:

  -able in *objectionable*

  -ese in *motherese* and *journalese*
- This is an example of change of "input" to the morphological rule.

Syntactic change

Syntactic change: word order

- Word order in a language could change over time. For example, Old English (OE) had more variable word order than Modern English (ModE) does.
- So, we do find SVO order in simple transitive clauses:

  Hē geseah βone mann

  He saw   the   man

Syntactic change: word order

- When the clause began with an element such as þa (="then"), the verb would follow that element, therefore preceding the subject:

  þa   sende sē cyning þone disc

  then sent   the king   the dish

  "Then the king sent the dish."

Syntactic change: word order

- When the object was a pronoun, the order in OE was typically SOV:

  Hēo hine lærde

  She him saved

  "She saved him."

Syntactic change: word order

- The same SOV word order also prevailed in embedded clauses, even when the object was not a pronoun:

  þa   hē þone cyning sōhte,   hē bēotode

  when he the   king   visited, he boasted

  "When he visited the king, he boasted."

Syntactic change: word order

- As we noted earlier, case markings were lost during the Middle English (MidE) period, and, as you should expect, SVO order became the unmarked word order in the language. The following table shows the change in word order that took place around 1300 and 1400:

Syntactic change: word order

Year	1000	1200	1300	1400	1500
OV %	53	53	40	14	2
VO %	47	47	60	86	98

Syntactic change: word order

- Modern Arabic dialects are SVO for the most part, even though Classical Arabic was VSO for the most part.
- And while more word orders were possible in Classical Arabic because of the presence of case morphology, many of these orders are not possible in Modern Arabic dialects.

Syntactic change: negation

- Negation in OE was done by placing the negation marker *ne* before a verbal element:

  βæt he na   siββan geboren ne wurde
  that he never after   born   not would-be
  "that he should never be born after that"
- Notice word order and the use of double negatives.

Syntactic change: negation

- Proto-Indo-European is believed to have had a negation marker *ne*.
- In old Latin, a new form arose from combining *ne* with the word for "one" (*ūnum*). This led to the form *non*.
- Hence, Old French ended up with both *non* and *ne*.

Syntactic change: negation

- Both forms developed a division of labor, where *ne* became the used form when the negation word is placed before verbs, and *non* for other cases of negation:

  Il ne   dorme pas
  he not sleeps (not)
  Vous venez ou non?
  you   come or not
- Interestingly, many French speakers today are dropping the *ne*:

  J'ai pas dit   ça
  I've not said this

Syntactic change: Extension

- Spanish *se* is a reflexive pronoun:

  Yo no vestí a Juanito; se visitó
  I   not dressed Johnny ; he himself dressed
- A change has occurred such that the element *se* was extended in use as a marker of the passive construction so that *se visitó* also came to mean "he was dressed", in addition to "he dressed himself".

Syntactic change: Extension

- This *se* passive reading emerges in sentences where both meanings make sense:

  El rico se entierra en la iglesia
  -the rich person has himself buried in the church
  -the rich person gets/is buried in the church

Double comparatives and superlatives

- Examples:

  more gladder, more lower, moost royallest, moost shamefullest
- These were all ok in Middle English. Not any more.

Genitives

The Wife's Tale of Bath (MidE)
The Wife of Bath's Tale (ModE)

The man's hat from Boston (MidE)
The man from Boston's hat (ModE)

Phonological change

Phonological change

- Perhaps the most noticeable change in the grammar of a language happens in pronunciation.
- Even though change can affect all areas of phonology (e.g., tone, stress, and syllable structure), we will focus here only on change involving individual sounds as they occur in sequence. We call this *sequential change*.
- Before we do this, let us introduce some basic terms in phonetics.

Phonetics

- **Phonetics** is the study of speech sounds in human language.
- In this class we'll be only concerned with the physiological mechanisms of speech production. This particular branch of phonetics is called ***articulatory phonetics***.

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 for the following reasons:
- 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:
    shoot character physics rough plain
- Some letters have no sound at all in certain words:
    knot resign lamb sword

Spelling and speech

- Spelling may also fail to represent sounds that occur:
    - c<u>u</u>te f<u>u</u>tility <u>u</u>niversity
- Also, one letter may represent two sounds:
    - bo<u>x</u>   Xero<u>x</u>
- Remember also that the majority of human languages do not have a writing system, which makes spelling completely irrelevant for pronunciation in these languages.

Spelling and speech

- Because we cannot rely on spelling, linguists rely instead on a special alphabet to represent speech sounds in human language. This is the so-called *International Phonetic Alphabet* (IPA), see Table A on p. xxi in Payne's book for the IPA chart for consonants, and Table B on p. xxii for the IPA chart for vowels. <u>A fun website</u>.

The vocal tract

- There are two major types of sounds in human language: consonants and vowels.
- As it turns out, a sound can be described in terms of a number of individual articulatory features.
- Before we do that, however, let's look at the human vocal tract first:
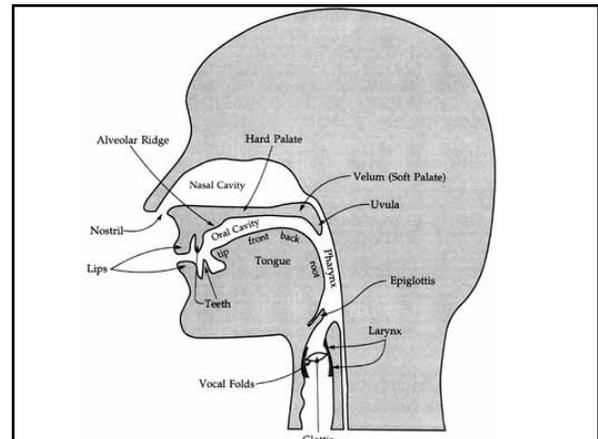
Consonants and vowels

- The vocal tract produces both consonants and vowels, but how are these different?
- 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.

Articulation of consonants

- Consonant sounds can be characterized according to three main phonetic properties:
    - a) **place of articulation**, which refers to where in the vocal tract the sound is produced;
    - b) **manner of articulation**, which refers to the way the air is obstructed in the vocal tract while producing the sound; and
    - c) **voicing**, which refers to whether or not there is a vibration of the vocal cords as the sound is produced.

Places of articulation

- **Labial** consonants: These are produced with closure or near-closure of the lips.
- If both lips are involved, the consonant is said to be "**bilabial**", e.g., [p], [b], and [m].
- If the upper teeth and lower lip are involved, the consonant is said to be "**labiodental**", e.g., [f] and [v].

Places of articulation

- **Dental** consonants: These are produced with the tongue placed against or near the teeth, e.g., the initial sounds in French words temps, dire, and zizi.
- English has **interdental** consonants, though. These are the initial sounds in words like *thorn* and *there*. They are phonetically represented as [θ] and [ð].

Places of articulation

- **Alveolar** consonants: These are produced by raising the front part of the tongue to the alveolar ridge, e.g. [t], [d], [n], [s], [z], [l], and [ɹ].
- **Alveopalatal** consonants: These are produced when the front part of the tongue touches the alveolar ridge and then the hard palate (that part of the mouth which is just behind the alveolar ridge), e.g. [ʃ] as in "shoe", [ʒ] as in "vision", [tʃ] as in "choose", and [dʒ] as in "jam".
- If the consonant is produced at the palate, then it is a **palatal** sound, e.g., [j] as the initial sound in *yes*.

Places of articulation

- **Velar** consonants: These are produced by raising the back part of the tongue to the soft palate or the velum, e.g. [k], [g], and [ŋ], which is the final sound in "king".
- **Uvular** consonants: These are produced by raising the back of the tongue to the uvula, e.g. French [ʀ] and Arabic [q].
- **Pharyngeal** consonants: These are produced at the pharynx, e.g. Arabic [ħ] and [ʕ].

Manners 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.

Stops (aka plosives)

- **Stops**: These are produced by a complete obstruction of the airflow in the mouth, e.g. [b], [p], [t], [d], [k], and [g]. English also has a glottal stop, transcribed as [ʔ] as in *uh-oh*.
- When the air escapes through the nasal, rather than the oral, cavity, *nasal stops* are produced, e.g., [m], [n], and [ŋ]. Recall the last symbol stands for the final sound in words like *king*.

Fricatives and affricates

- **Fricatives**: These are produced by a partial obstruction of the airflow, where the passage in the mouth through which the air escapes is very narrow, causing friction, e.g. [f], [v], [s], [z], [θ], [ð], [ʃ], [ʒ], and [h].
- **Affricates**: These are produced by a stop closure followed immediately by a slow release of the closure characteristic of the fricative, e.g. [tʃ] as in *church*, and [dʒ] as in *jump*.

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

- 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].
- Another sound commonly identified with "r" is the flap, which occurs in North American English in words like *butter* and *better*. This sound is transcribed as [ɾ].

Glides (aka Semi-vowels)

- **Glides**: These are produced with little or no obstruction of the air in the mouth, e.g. [j] as in *yes* and [w] as in *wood*.
- When occurring in a word, they must always be either followed or preceded by a vowel, and in their articulation the tongue moves rapidly in a gliding fashion either toward or away from a neighboring vowel.

Voicing

- Consonant sounds that are produced either with a vibration of vocal cords are called **voiced** sounds, e.g. [b], [d], and [z].
- By contrast, consonant sounds are produced without a vibration of the vocal cords are described as **voiceless**, e.g. [p], [t], and [s].

Describing consonants

- A consonant can thus be described in terms of these three features: 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 [ħ].

Vowels

- Vowels are distinguished from consonants in that the passage through which the air travels is never so narrow as to obstruct the free flow of the airstream.
- It's hard, however, to characterize vowels according to the same features that we have used in characterizing consonants.

Vowels

- To distinguish between different vowels, we rely on four main features:
    - (a) **tongue height**,
    - (b) **tongue advancement**,
    - (c) **lip rounding**, and
    - (d) **tenseness or laxness of the vocal tract**.

Tongue height: High, Mid, or Low

- Tongue height refers to whether the vowel sound is produced with the tongue high in the mouth or low in the mouth.
- The difference between the two sounds [i] in *heat* and [æ] in *hat*, for example, is that the first is produced with the tongue high in the mouth, whereas the latter is produced with the tongue low in the mouth. We call [i] a **high** vowel, and [æ] a **low** vowel.
- If the tongue is raised to a height midway between high and low we get a **mid** vowel, e.g. the sound [e] in *bait* and the sound [ɛ] in *bet.*

Tongue advancement: Front, Back, or Central

- Difference in tongue height is not enough, however, since two vowels may have the same height property, e.g. [i] as in *see* and [u] as in *who* are both high vowels.
- To distinguish between these two vowels we rely on a second property of the tongue: whether the tongue is advanced (i.e., pushed forward), retracted (i.e., pushed back), or neither, giving rise to *front*, *back* or *central* vowels, respectively.

Tongue advancement : Front, Back, or Central

- When producing [i], you'll notice that it is the front part of the tongue that is raised in the mouth; for [u], it is the back part of the mouth. We call [i] a high **front** vowel, and [u] a high **back** vowel, therefore.
- If the highest point of the tongue in the mouth is somewhere between front and back, we get a **central** vowel, e.g. the sound *schwa* [ə], which occurs finally in words such as *sofa* or initially in words such as *about*.

Lip rounding

- Vowels are also distinguished according to the shape of the lips while producing them. For example, [u] as in *moon* is produced with **rounded** lips, whereas [æ] as in *man* is an **unrounded** vowel.

Tense vs. lax vowels

- Some vowels might share the same features for tongue height, tongue highest point, and lip rounding. For example [i] as in *heat* and [ɪ] as in *hit* are both front high unrounded vowels.
- Such pairs of vowels are usually distinguished by a **tense** vs. **lax** feature: [i] is produced with greater vocal tract constriction than [ɪ]. We say that [i] is a tense vowel, whereas [ɪ] is a lax vowel. Note that tense vowels are also longer.

Diphthongs

- Two sounds (often a vowel and a glide) may combine together to form a **diphthong** (that is, a compound vowel). Examples of diphthongs in English are given below:
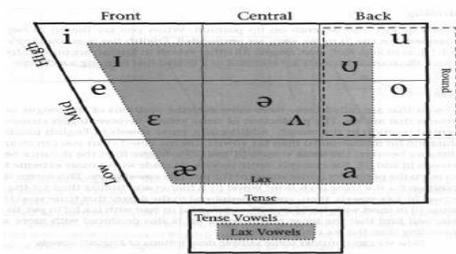
  [aj] as in *die*   [aw] as in *now*
  [ɔj] as in *toy*

English vowel chart

- Here's a vowel chart for English vowels.

Figure 1. The vowels of English.

Phonetic Transcription

Word	Transcription
raining	[ɹenɪŋ]
lecture	[lɛktʃəɹ] or [lɛkʃəɹ]
sounds	[sawndz]
???	[fənɛtɪks]

Next class agenda

- Phonetics cont.: Articulatory processes.
- Phonological change (read Fromkin et al's section on phonological change).
- Reconstruction of "dead" languages. The comparative method. Cognates. (start reading Fromkin at el's part 2).