INTD0111A

The Unity and Diversity of Human Language

Lecture #16
April 8th, 2009

Announcements

- Screening of the first part of the Writing Code is tomorrow at 7pm in Library 140.
- Things going ok with the LAP?
- Citation system: Use APA.
- Any questions?

Language change and "reconstruction"

- We have seen that a language undergoes change in its lexicon as well as all components of grammar (morphology, syntax, phonology, and semantics).
- Over time, these changes might become considerable enough to the point where we become unable to tell if two historical varieties of the same language are actually related.
- Luckily, though, historical linguists developed ways to establish historical relations among languages. We discuss this today.

Historical linguistics

- The 19th century was the century for the study of historical (aka *diachronic*) linguistics.
- Herman Paul in 1891: "It has been objected that there is another view of language possible than the historical. I must contradict this."

Reconstruction and the comparative method

- Historical linguists, aka *comparativists*, were mainly concerned with "reconstructing" the properties of the parent language of a group of languages that are believed to be genetically related.
- *Reconstruction* was done by means of the *comparative method*, whereby earlier forms were determined via the comparison of later forms.
- The earlier forms are called *proto-forms*, and the earlier language is called a *proto-language*.

Cognates

- The forms compared were typically words that were believed to have developed from the same ancestral root. They are called *cognates*.
- Consider the following table of Germanic cognates:

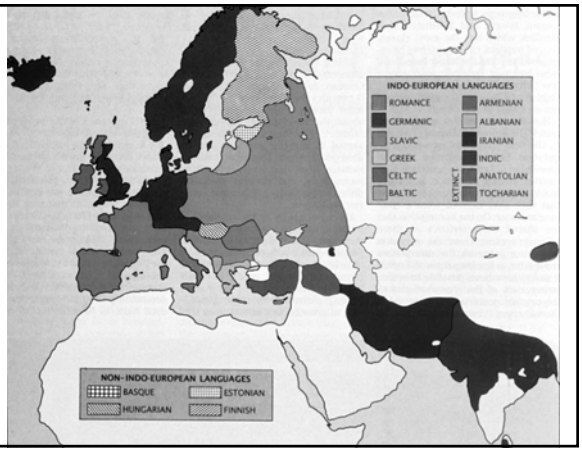
Cognates

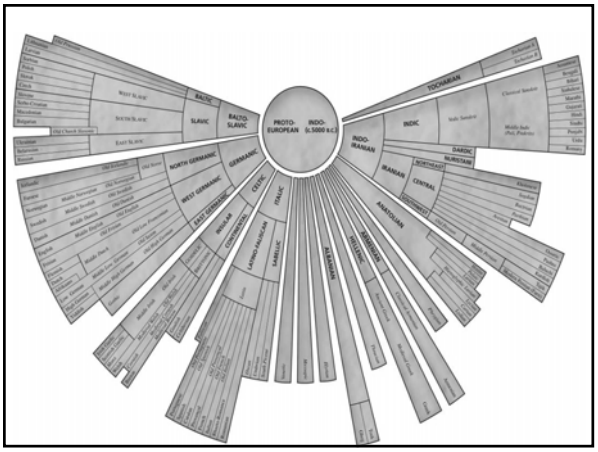
English	Dutch	German	Danish	Swedish
man	man	Mann	mand	man
foot	voet	Fuß	fod	fot
bring	brengen	bringen	bringe	bringa

- Compare Turkish "non-cognates":
  adam (man), *ajak* (foot), and *getir* (bring)

The discovery of Proto-Indo-European

- In 1786, Sir William Jones, a British judge and scholar working in India, noted that Sanskrit bore to Greek and Latin "a stronger affinity … than could possibly have been produced by accident," and he suggested that the three languages had "sprung from a common source".
- This common source is what came to be known later as "Proto-Indo-European" (PIE), the parent language of most of the languages spoken today in Europe, Persia, and northern India.





The discovery of Proto-Indo-European

- Thirty years later, a young Danish scholar, named Rasmus Rask, postulated general correspondences between the consonants of Germanic languages and those of Sanskrit, Greek, and Latin, noting for example that where the ancient languages showed a [p] sound, the corresponding words in the Germanic languages showed an [f].

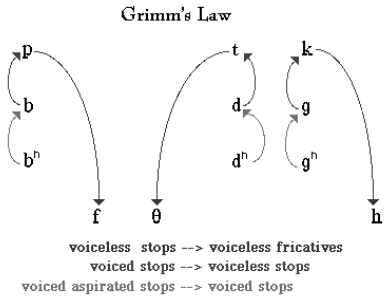
The discovery of Proto-Indo-European

Sanskrit	Latin	English
pitar-	**p**ater	**f**ather
pad-	**p**ed-	**f**oot
——	**p**iscis	**f**ish
pasu	**p**ecu	**f**ee

Grimm's Law

- In 1822, a German scholar, named Jakob Grimm, extended Rask's observations and provided a detailed exposition of the Germanic consonant shift that came to be known as *Grimm's Law*.
- The crucial observation was that where ancient languages showed a voiceless stop [p, t, k], Germanic languages like English and Gothic showed a corresponding fricative [f, θ, h]:

Grimm's Law



Grimm's Law

Sanskrit	**Greek**	**Latin**	**Gothic**	**English**
pad-	**p**od-	**p**ed-	**f**otus	**f**oot
trayas	**t**reis	**t**res	**th**reis	**th**ree
——	**k**ardia	**k**or	**h**airto	**h**eart

Grimm's Law (note * = proto)

PIE form	**Sanskrit**	**Latin**	**English**
*p	**p**itar-	**p**ater	**f**ather
*t	**t**rayas	**t**rés	**th**ree
*k	**ś**un	**c**anis	**h**ound
*b	No cognate	la**b**ium	li**p**
*d	**d**va	**d**uo	**t**wo
*g	a**j**ras	a**g**er	a**c**re
*bh	**bh**rātar-	**f**rāter	**b**rother
*dh	**dh**ā	**f**ē-ci	**d**o
*gh	va**h**-	ve**h**-ō	wa**g**on

Verner's Law

- There were exceptions to Grimm's Law, but they turned out to be systematic.
- Karl Verner traced a group of exceptions to Grimm's Law, formulating what came to be known as *Verner's Law*, which says:

  When the preceding vowel was unstressed, [f, θ, x] underwent a further change to [b, d, g].

Verner's Law

Sanskrit	**Gothic**	
bhrā'**t**ā	[bro:**θ**ar]	"brother"
pi**t**ā'	[fa**ð**ar]	"father"

(where ' indicates stress).

English words not affected by Grimm's Law

- Notice that some words in English were not affected by Grimm's Law:

Latin	English	
ped-	pedestrian	(no p → f)
tenuis	tenuos	(no t → θ)
canalis	canal	(no k → h)

- Any ideas why?

The second Germanic consonant shift

- A second consonant shift took place in some Germanic languages (e.g., Modern German), but not in others (e.g., Modern English):

Proto-sound	After vowels	Elsewhere
**p*	f	pf
**t*	s	ts
**k*	x	k
**d*	t	t

The second Germanic consonant shift

Modern English	Modern German
o**p**en	o**ff**en
path	**pf**ad
bi**t**e	bei**ss**en
to	**z**u (z = ts)
boo**k**	Bu**ch** (ch = x)
come	**k**ommen
ri**d**e	rei**t**en
door	**T**ür

So, how do we decide on the proto-form?

- Reconstruction of proto-forms makes use of two main strategies:
  a. the phonetic plausibility strategy
  b. the majority rules strategy.

The phonetic plausibility strategy

- The phonetic plausibility strategy requires that any sound changes posited to account for differences between proto-forms and later forms must be phonetically plausible.

Some phonetically plausible sound changes

- Voiceless sounds become voiced between vowels and before voiced consonants.
- Stops become fricatives between vowels.
- Consonants become palatalized before front vowels.
- Consonants become voiceless at the end of words.
- Oral vowels become nasalized before nasals.
- Fricatives become [h].
- [h] deletes between vowels.

The majority rules strategy

- The majority rules strategy stipulates that if no phonetically plausible change can account for the observed differences, then the sound found in the majority of cognates should be assumed.

Romance cognates

French	**Italian**	**Spanish**	**Portuguese**	
cher	caro	caro	caro	"dear"
champ	campo	campo	campo	"field"
chandelle	candela	candela	candeia	"candle"

- The regular sound correspondence for the initial sound is *š-k-k-k*.
- Two hypotheses: (a) k → š, or (b) š → k.
  By phonetic plausibility, (a) wins.
  By majority rules, also (a) wins.

Transition

- We have seen *how* a language can change lexically, semantically, morphologically, syntactically, and phonologically.
- We have also seen *how* the changes can become so substantial to the point where one language, over time, gives rise to multiple related languages.
- We have also seen *how* historical linguists use the comparative method to reconstruct proto-forms in a proto-language from a set of cognates.

The "why" question

- So, we have seen some "how's". Can we discuss some "why's" now?
- The big "why" question is: Why do languages change?

Causes for language change: Technology, contact, social pressure

- Some changes are easy to understand: Creating new words to name new objects. Or borrowing for the same purpose. Or language contact.
- As we will discuss next week, social pressure can actually lead to certain linguistic changes (the loss of postvocalic [r] in some parts of the east coast in the US).

Causes for language change: Ease of articulation

- Some sound changes might be driven by a desire for *ease of articulation*, e.g., assimilation of vowels preceding nasal consonants.
- French nasalized vowels originated from nasal assimilation followed by word-final consonant deletion: [bɔn] → [bɔ̃n] → [bɔ̃].
- But how do we account for the Great Vowel Shift or the Germanic consonant shift in terms of least articulatory effort?

Causes for language change: Naturalness

- Certain patterns of sound change typically occur, though not others, suggesting that change might be in the direction of "*naturalness*".
- For example, the CV syllable is claimed to be the most natural of all syllables.
- As it turns out, CV is indeed universal: Every human language has it.

Causes for language change: Naturalness

- Sound changes in syllable structure are typically in the direction of the CV syllable, either through consonant deletion or vowel epenthesis:

  Consonant deletion:

  OE "cnēow" → ModE "knee" [ni:]

  Old Spanish "non" → Spanish "no"

  Vowel epenthesis:

  Italian "croce" → Sicilian "kiruci" "cross"

Causes for language change: Naturalness

- There is also evidence from language acquisition for the naturalness of the CV syllable. Children typically simplify longer syllables to change them into CV syllables:

  "tree" [tri:] → [ti:]

  "dog" [dɑg] → [dɑ]

Causes for language change: Analogy

- Some changes might be the result of *analogy*: the desire to reduce the number of exceptional or irregular forms in the language as much as possible:

  sweep-swept → sweep-sweeped

  wake-woke → wake-waked

But some changes are harder to explain than others

- Why would a language change its basic word order, the way it forms questions, the way it forms negation, verb placement, subject placement, its case and agreement system, its morphological typology, etc.?

But some changes are harder to explain than others

- And why are changes systematic and subject to the same constraints that govern cross-linguistic variation?
- So, phonological changes are subject to the same phonological rules that we find in human languages. And a syntactic change in a language never takes the language beyond the limits of what is possible in human languages in general.

But some changes are harder to explain than others

- The "why" question is obviously hard, and 19th century historical linguists felt sometimes the pressure to provide an answer, but only in ways that we cannot accept today.

Warning: This is *not* an explanation!

- So, Grimm explained the law of consonant shifts as

  "connected with the German's mighty progress and struggle for freedom … the invincible German race was becoming ever more vividly aware of the unstoppability of its advance into all parts of Europe … How could such a forceful mobilization of the race have failed to stir up its language at the same time, jolting it out of its traditional rut and exalting it? Does there not lie a certain courage and pride in the strengthening of voiced stop into voiceless stop and voiceless stop into fricative?"

So, …

Can we do better?

We discuss this on Monday.

Next class agenda

- A parametric analysis of syntactic change. Read Baker's chapter 7.
- Sociolinguistic variation: Fromkin at el's chapter to be posted online.