

Intro
Overview of Topics
Syllabus Review
Sections

8.28.19 Linguistics 100 · Lecture 1 Keith Johnson

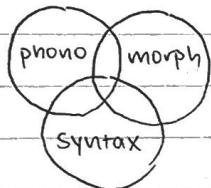
WHY LINGUISTICS

- externalize inner lives
- create collective memories
- coordinate movements

HUMAN LANGUAGE CAN BE THOUGHT OF AS A SYSTEM

or system of systems

system · set of rules or guidelines



phonology · study of sound systems

morphology · study of meaningful "chunks" of language (morpheme)

syntax · study of how words are organized (phrases and sentences)

ex: English · subject · verb · object

phonetics ·

semantics ·

SYSTEMS IN TIME

synchronic · one moment

diachronic · over-time

SOCIOLINGUISTICS

PSYCHOLINGUISTICS

Phonetics
Consonants vs vowels
Articulatory parameters
IPA
Places of Articulation
Homework

8.30.19 Lec 2 Intro to Articulatory Phonetics: consonants

PHONETICS: study of production, properties, and perception of human sounds

1. *articulatory · human vocal apparatus
2. acoustic · properties of sound waves
3. perceptual · hear and perceive speech sounds

phonetics (speech sounds) → phonology (speech systems)

CONSONANTS VS. VOWELS

consonants involve some vocal obstruction

articulatory parameters

articulator · part of vocal tract involved in production · what

place of articulation · where articulators come together

manner of articulation · how articulators behave in production

state of glottis · eg voiced, voiceless, creaky

airstream mechanism · eg pulmonic, glottalic, velaric

oro-nasal state · eg oral, nasal

INTERNATIONAL PHONETIC ALPHABET

set of symbols used by linguists to represent human speech sounds

charts on website

MAJOR COMPONENTS OF THE SPEECH PROD. MECHANISM

supralaryngeal vocal tract

· nasal cavity

- view diagram

· oral cavity

· pharynx

linguistics.berkeley.edu/phounwork

larynx

HW: bcourses

subglottal system

· trachea

· lung

hard/soft pal

Places of Articulation
Consonantal Manners of Articulation in English
voicing

9.4.19 Lec 3 consonants: Places of Articulation (cont) • Manners of Articulation

VOCAL TRACT DIAGRAM

nasal cavity passage opens w/ sounds such as m, n
backsound, pharynx, glottis

MANNER • way articulators approach each other

stop • complete closure of the oral cavity

fricative • almost complete closure • air barely escapes (ex: shoe)

affricative • complete block followed by a slight release of closure (ex: choose)

approximants • mild constriction • air flows freely (ex: you, why)

tap • momentary contact between articulators (ex: butter)

MAJOR MANNER TYPES

STOP (PLOSIVE)

oral [p, b, t, d, k, g, ?]

nasal [m, n, ŋ]

fricative [θ, ð, s, z, ʃ, ʒ, h]

affricate [tʃ, dʒ]

approximant

central (= approximant) [j, ɪ, w]

lateral [l]

tap [ɾ]

view chart on IPA sheet

STOP

oral • both oral and nasal airflow blocked

voiceless [p, t, k] • voiced [b, d, g]

nasal • only oral flow blocked

voiceless [m, n, ŋ] • voiced [m, n, ŋ]

FRICATIVE

voiceless [θ, ð, s, z, ʃ, ʒ, h] • voiced [ð, z, ʒ]

The phonetics of Eng vowels
Transcription practice

9.4.19 LEC 3 cont. • 9.6.19 LECTURE 4 VOWELS

AFFRICATE

voiceless [tʃ] • voiced [dʒ]

APPROXIMANT

central: air flows through center of oral cavity [w, ɹ, j]

lateral: air flows around side of tongue [l]

TAP [ɾ]

GLOTTAL STATE

glottis: space between vocal folds • vibrate when brought together → voiced

voiced: vocal folds vibrating during articulation of consonant [b, d, g, z]

voiceless: vocal folds begin vibrating very shortly after articulation [p, t, k, s]

VOT (voice onset time) = 10-20 ms.

aspirated: vocal folds only begin vibrating after a perceptible delay after art [pʰ, tʰ, kʰ]

VOT = 50-60 ms

GENERAL CHARACTERISTICS OF VOWELS

height: high [i] vs low [ɑ] • how close roof of mouth highest pt of tongue is

backness: front [i] vs back [u] • where front-back axis of oral cavity pt of tongue is

rounding: whether lips are rounded or not (spread)

tenseness: tense-less centralized and longer than lax vowels

TARGET WORDS FOR ENGLISH VOWELS

	front	back
high tense	[i] bead	[u] booted
high lax	[ɪ] bid	[ʊ] book
mid tense	[eɪ] bade	[oʊ] bode
mid lax	[ɛ] bed	[ʌ] buck [ɔ] bought
low	[æ] bad	[ɑ] bad

The phoneme concept: contrast and allophones
Phonological env and the conditioning of allophones
Underlying representations and practice problems

9.6.19 Lecture 4 cont. 9.9.19 Lecture 6. Intro to phonology

UNUSUAL ASPECTS OF ENGLISH VOWELS

many unstressed vowels in English reduce to [ə] (schwa)

photograph vs photography

<e>, <o>, <a> - only have these sounds phonetically as part of diphthongs

QUESTIONS

these

thin [ɪ]

paid [eɪ]

plaid [æ]

5 GLOTTALIC AIRSTREAM MECHANISMS (non-pulmonic)

ejective consonants - push glottis up creating positive pressure in the volume

implosive consonants - push glottis down creating neg. pressure in the volume

• ejective: N. Central Amer., Africa, Caucasus

• implosive: Meso-South Amer, Africa, SE Asia

6 PHONOTACTICS

possible sequences sounds

ex: lax vowels have following consonant

ex: words - [pr...] [tr...] [kr...] [pl...] [kʃ...] but not [h...]

| [br...] [dr...] [gr...] [bl...] [gl...] but not [d...] [l...]

to describe these patterns need to refer to classes of sounds

lax vowels need consonant

cannot have alveolar stop followed by liquid glide

FROM PHONETICS TO PHONOLOGY

hierarchical structural organization for speech sounds into more abstract

units involved in the expression of meaning

phonemes: these abstract units

9.9 · 19 Lec 6 cont.

PHONEMES AND ALLOPHONES

phonemic theory built around these

phoneme - unit of the sound system of a language that contrasts with another phoneme

contrastive: substituting one phoneme for another in a word changes meaning

/d/, /t/ [baed] and [baet] — distinct phonemes

/d/, /g/ - distinct phonemes due to contrastiveness evidenced by:

minimal pairs like in [baed] and [baeg]

↳ smallest sound diff from one word to another

quiz 1.C 2.B

for tests, homework, ppt quizzes, discussion ws

ALLOPHONE

contextual variant of a phoneme

Berkella Rabbits

Brown · summer

White · winter

seemingly distinct but actually just contextual variants

conditioned by the season

associated with an environment

guided by

- 1) complementary distribution
- 2) plausible causal relationship between variants
- 3) two variants found in non-overlapping environments

suggests a causal relationship = development of seasonal appropriate cryptic color.

Relationship between allophones and phonemes

similar relationship

allophones are contextual variants of phonemes in particular env.

allophones of a given phoneme are in complementary dist.

allophones of a given phoneme are related to each other by plausible

quiz 1.C 2.B 3.A phonetic mechanisms

9.9.19 Lec 6 cont. 9.11.19 Lec 7 Phonology: complementary and overlapping Dist.

[s] and [ʃ] in Matsigenka

words with [s]

S word boundary	
#	a
a	a
H	a

words with [ʃ]

ʃ	
#	i
o	i
a	i

can summarize environments

[ʃ]: _i

[s]: {a,e,o,u}

palatization

tip of tongue for [s]; body of tongue for [ʃ]

[s] influenced by height of the [i] - becomes an [ʃ] and its env: _i

: contextual variants

: allophones of the same phoneme

7. Closing the loop on distributions

allophones of a given phoneme are in complementary distribution

they appear in different phonological env.

env. determines which variant (allophone) will appear

speech sounds associated with diff phonemes are gen. in overlapping dist.

appear in same sets of phonological env.

but env. is not predictive of which variant you will see

Closing the loop on contrastiveness

allophones of a phoneme are non-contrastive

direct consequence of - complementary distribution

substitution →

no substitution (non-overlapping dist.)

	phonemes	Allophones
contrastiveness	contrastive	non-contrastive
Distribution	overlapping	complementary

quiz. 1.B 2.B 3.B

9.11.19 Lec 7 cont.

Phonological Analysis of Setswana (Botswana, South Africa...)

[l], [d] phonemes or allophones of same phoneme

using a +-chart to identify environments

	l			d		
#	e	ɛ	a	ə	i	o
e	ɛ	a	ɔ	ə	u	u
a	a	o	e	ə	i	
#	e	o	ɔ	e	i	
F	ø	ə	a	u	u	

Quiz. 1. A 2.B don't list overlapping next time

Preliminary empirical generalizations

[d] appears before [i, u]

[l] appears before [e, ɛ, o, ɔ, a]

Refined hypothesis

[d] appears before ~~high vowels~~ /V/

[l] appears elsewhere ...

Conclusions

① [l] and [d] are in complementary distribution

② ∴ [l] and [d] do not contrast

③ can say they are allophones of the same phoneme

both voiced alveolar consonants

Free variation

distinct phonemes have overlapping distributions

does the reverse necessarily hold? NO!

distinct phonemes must also contrast

free variation

1) overlapping dist. 2) but no contrast

especially common in diff speech styles, like diff b/w careful & casual speech

9.12.19 HW 2

	d	r
#	a	e i
#	o	o o
#	e	o u
#	i	o i
		t i
		a a

④ nasalized $\tilde{i} \tilde{e} \tilde{a} \tilde{o}$

i	i	e?	ə?
m	s	r	#
m	#	l	a
m	l	n	m
		w	n
		k	n

② a, i, ɪ, u, ʊ, ə

s, k, p, t, n, t

m.	u
x	s
w	r
m	ɛ
m	ö

nasal follows nasal

s	p
s	l
l	n
s	t
k	k
m	k
h	p
p	p
t	p
s	m

	K	X	K'	X'
#	e	f	i	i
#	o	r	e	e
#	o			
#	r	u		
#	u			

same environment

Phonemes, Allophones, and Multi-Level Phonology
Phonological Rules
Natural Classes
Common phonological processes

9.13-19 Lecture 8 Phonology: Phonemes, Allophones, and Phonological Rules

TEST

Section handouts/hw//slide questions
language files practice phonology problems in book (section 3)

PHONEMES AND ALLOPHONES

phonemes - sets of allophones

recast the phoneme as exhibiting a two-level structure.

- 1) The phoneme: A relatively abstract cognitive-conceptual unit
- 2) The allophones: Concrete speech sounds realizing a phoneme

Phonological rules have the general structure:

/phoneme/ → [allophone]/environment

ex: /s/ → [ʃ]/_i

Environments can be depicted in many ways

A - segments after allophone

B - segments before allophone

B_A - or by both

{A} - or list of possible env.

What to put between the slashes? two principles

1. Parsimony - ability to state the rule in an economic manner
2. Phonetic plausibility - there exists a plausible phonetic mechanism

linking the phoneme and its allophones

- 1) rule that defines a change is better if one is able to state its operation in a concise manner.

NATURAL CLASSES

is a set of sounds that - 'similar in some way'

all share one or more phonetic property

are the set of all the speech sounds in a particular language that share feat.

quiz 1.A 2.B 3.A?

quiz 1.A 2.B (low) 3.

dep on chart and what's in the language

Free Variation
Phonological Processes
Natural classes (reprise)
Multiple phonological processes

9.16.19 Lecture 9 Phonological Processes and Natural Classes

FREE VARIATION

Phonological rule applies optionally ↗

Variants involved

- allophones of the same phoneme
- in overlapping dist
- but not contrastive (same word)

Free variants are distinguished

- regular variation predictable
- free variation unpredictable

griz. 1.B 2.A 3.C - (pronunciation or p depends on env)

PALAWAN

[θ][ɛ] complementary dist - diff env - fill for each other

PHONOLOGICAL PROCESSES

assimilation - acquiring a feature from context

dissimilation - 'rejecting' a feature from context

epenthesis - consonant or vowel insertion

deletion - consonant or vowel deletion

lenition (weakening) - becoming more 'vowel like'

fortition (strengthening) - becoming more 'consonant like'

ASSIMILATION

involves one speech sound acquiring some 'feature' of another speech sound

e.g. place of articulation or manner of another sound

- Nasal place assimilation 'NPR' 'NKVD'
- Palatization - consonant raises and 'palatalizes' due to neighbouring palatal segment or high vowel 'did you' 'going to - gonna'
- Intervocalic voicing of consonants

Multiple Phonological Processes Distinctive Features Intro

Lecture 9 cont.

9.18.19 Lecture 10 Multiple Rules and Distinctive Features

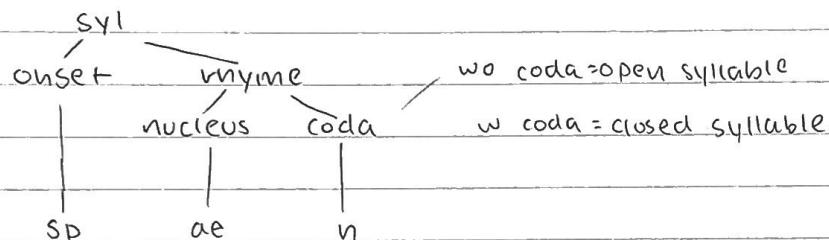
Multiple Phonological processes

[standpoint] → stampoint alveolar to bilabial

[handbag] → hambag because of bilabial p,b

[d] suddenly not there

Syllables



boundary between indicated by a period [spaen.jəl]

quiz. 1A 2B

Rule ordering

try out the possibilities

Votic

quiz 1B 2.A 3.C 4.? 5.

9.19.19 HW Q3

①	u	o	e	i
A	t	q t	s q	m s
S	F	u q	q j	s #
P	S	q #	u q	t t
h	K	q s	q F	t #
r	n	p q	q #	K #
K	n	q j	t q	# s
K	K	q m	q n	K K
K	t	t q		K n
h	n			v p
J	j			p #
				v #
				p c

②	L	T	T	L	L	T
I	i	u	u	v	y	y
P	p	z #	t #	t t	l t	m (z) #
I	K	s #	l #	x p	# t	b #
S	K		b #		s t	z #
Z	K		x #			

③	t	θ	e	i
E	ə	n i	k l	l #
K	U	a i	# s	3 #
a	u		r v	θ #
S	U		z d	ð #
#	u		f s	
#	ɛ		p t	

Lecture 10 9.20.19

Kenyang

<u>q</u>	<u>k</u>	Distributions	PHONO RULES	
a #	e #	[q]: {a, o, ɔ}	/k/ → [q] / non-high back vowels	
ɔ #	ə #	[k]: {e, i, ə, u, ŋ, #}	/k/ → [k] / elsewhere	
o #	u #	Generalizations		
i #		[q]: non-high back vowels		
ŋ	ɔ	[k]: elsewhere		

quiz: A, B — assimilation

Dissimilation

10 Rule ordering

handbag example

VOTR C

quiz 1. A 2. C, 3. B
^{mette}
when is the pastivativesuffix [A]

Testing Rule ordering in VOTR

1. vowel raising: /kurke/ → kurki

2. palatalization: kurki → [kurtsi]

take underlying form and apply rules in two possible ways

make sure rules apply non-vacuously

"A "bigger" feature Sonorant

overarching property ("sonorousness") is shared by [vowels] and [l]
in Palawan [θ]

/d/ → [θ] / [+sonorant] — [+sonorant]

Sounds and Features

binary-valued (+ or -)

Speech sound is a set of features: [p]

Major Class Features Place Features

Lecture 11 Distinctive Features: The Decomposition of Speech Sounds

Sounds and Features

1) Major Class Features

- syllabic
 - sonorant
 - consonantal
- vowel like
- consonant like

syllabic - 'nucleus' or center of a syllable

sonorant - unobstructed airflow → vowels, nasals, approximants
can be loud

consonantal - obstruction or turbulence

quiz. 1.B 2.B 3.B 4.A

m, ! sonorant cause other passages

r ← syllabic

open

23. P Pⁿ b

# ə	# ə	# ə	overlapping dist.
ə u		# ə	contrastive dist.
# e	ə u		allophones of diff. phonemes
# u		/	

[pənu] [bənu]

minimal pairs diff. words

midterm 2

Intro to Morphology

"Morpheme" - a form, meaning pair
internal struc of eng words

9.25.19 LECTURE 13 MORPHOLOGY

INTRO TO MORPHOLOGY

the linguistic approach

structure

phonology

morphology

hierarchical structures

distribution

contexts in two dimensions: sound and meaning

phonology • overlap vs contrast

morphology • alternations

computational linguistics

quiz: 1.B 2.B 3.A

Morpheme

[s] in 'apse' diff from [s] of 'cats' → plural

same form - pronounced same

don't mean the same thing

<-s> in 'bulbs' diff from <-s> in 'grabs'

same form

diff meaning

[z] of 'eggs' the same as [s] of 'akes'

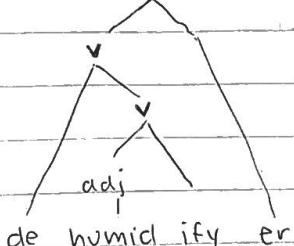
similar form, same meaning

both mean 'plural' ∵ allomorphs of the same morpheme

quiz 1.A 2.B 3.A 4.A 5.A

graz 1.B 2.A 3.B/A

unlockable-ambiguous



Noun frame: "a / some _____"

Verb frame: "to _____"

Adj frame: "a _____ thing"

Bound vs Free Morphemes
Morphemes in Isthmus Zapotec
Morphological processes: Affixation and compounding
Interlinearization - writing morphemes

9/27/19 LECTURE 14 Types of Morphemes

Solving Word Structure Problems

- 1) Identify the category of the entire word
- 2) Break the word into morphemes
- 3) Identify the root and its category
- 4) Determine which of the elements to left or right combines \Rightarrow new word
- 5) Repeat until you get to the top

try: Reformer, overgeneralization, misunderstood

9.27 Types of morphemes: bound vs free

A bound morpheme • cannot appear by itself
only in combo with other morphemes

A free morpheme • is one that can appear by itself

ex: cat, cat-s

Morphemes: structural types

think of morphemes in relation to its root

root - conveys core meaning of word

additional morphemes - modify meaning of word by morphological processes

griz. 1.B 2.B, 3.C 4.D 5.

Morphological processes

concatenative • involve adding specific phonological material in a specific linear order with respect to other morphemes in the word

non-concatenative

• C: Affixation, compounding

• NC: Base modification, reduplication, subtractive morphology,
root-and-pattern morphology (transfixation)

concatenative

Affixation (concatenative)

prefixation: un-clear

suffixation: believ-able

circumfixation: ge-geb-en

infixes: abso-bloody-lute-ly

compounding (concatenative)

two roots combined to form new word (sometimes unpredictable)

Noun-compounds

N-N fire engine

A-N green house

V-N jumpsuit

P-N after-thought

Adjective compounds

N-A nationwide

A-A red hot

P-A overripe

Verb-compounds

N-V steamroll

A-V dry clean

P-V overlook

V-V dropkick

common in language

Compounds vs word sequences in English

affixes don't intrude on compounds

• (V-V) "break danced" not "broke dance"

• (N-N) "fire engines" not "fires engine"

Compound stress in A-N compounds

• "green house" is a compound, "green house" is not

Interlinearization

words morphologically segmented

those morphemes glossed

given free translation

Non-concatenative morphology
Portmanteau morphemes and multiple exponence

9.30.19 LECTURE 15 : Non-concatenative Morphology

Leipzig Glossing Rules

morpheme glosses indicate the meaning of a morpheme

roots given briefest possible translation

other morphemes given abbreviation that indicate meaning/function

check list of abbreviations:

www.eva.mpg.de/lingua/resources/glossing-rules.php

9/30 Base Modification (NC)

change in the segmental or suprasegmental characteristics of a word

English: sing → sang, drink → drank

Reduplication (NC)

involves the repetition of some phonologically definable subpart of the word

• full reduplication: baita 'ship', baita-baita 'various ships'

• partial reduplication: jawah 'rain', jajawah 'play in the rain'

Subtractive Morphology (NC)

involves the removing of phonological material

ex: opit 'rib', olli 'ribs' — rottin 'warrior', rotti 'warriors'

Suppletion (NC)

involves replacing one morpheme with another

French: avoir 'to have' eu 'had'

German: ist 'is' sind 'are'

Root-and-Pattern Morphology (NC)

quiz: 1.B 2.A 3.B | 4.C 5.B 6.B | 7.C 8.A 9.A | 8.A,C 9.B 10.B

roots don't have dashes

practice

10/02/19 Lecture 16 Allomorphology

Cumulative exponence and portmanteaus

we could say morphemes pair single meaning with form BUT

morphemes with 'multiple meanings' exist and are either referred to as:

- portmanteau morphemes
- (instances of) multiple exponence
- (subtle difference between two)

if they can encode multiple meanings, what distinguishes

• cats

• é

→ although morpheme -é encodes multiple meanings, it cannot be further subdivided into small units bearing own meanings - unlike cats
morphemes, then, are the smallest (indivisible) meaning bearing units

Portmanteau

word blends

10/02 Introduction to Allomorphy

allophones are context-dependent realizations of phonemes

allomorphs are context-dependent realizations of morphemes

allomorphy · if given morpheme surfaces in more than one way

alternation · diff forms of the same morpheme

• ex: past tense suffix

[-t] pushed [pus-t]

[-d] sinned [sin-d]

[-əd] loaded [ləord-əd]

quiz 1.B 2.B 3.B all phonetic
alveolar? alveolar

10/02/19 cont. Lec. 16

Phonology vs morphology

allomorphy and allophony

regularity

- allomorphy may be irregular
- allophony applies w/o exception

conditioning

- allomorphy may be phonologically or grammatically conditioned
- allophony is phonologically conditioned

morphology can be a lot more arbitrary, lexical item specific

phonological conditioning

Matsigenka Table

morpheme	before C	before V (not /i/)	before /i/
1sg	n-	n-	n-
2sg	p-	p-	p-
3sg. Fem	o-	∅-	∅-
3sg. masc	i-	j-	∅-

phonological vs grammatical conditioning

Spanish: morphological conditioning

'sleep' dorm- or duerm-

depends on morphemes it combines with - morphological context

no phonological description makes sense

Regularity

alternations between allomorphs can be highly regular

[-s] [-z] [-əz]

while some alternations between allomorphs are completely idiosyncratic one-offs

[kætS] catch and [kɒt] caught vs hatch/hatched match/matched

10/02/19 cont.

Analytic versus synthetic languages types of synthetic languages

10.04.19 Lecture 17 types of languages

Regularity - between 'one-off' and 'highly regular'

Some allomorphy patterns recur in the lexicon in a set of words
between regular and idiosyncratic

▷ Fricative voicing in plural

- wife/wives
- knife/knives
- mouth/mouths

▷ The [ə:t] past tense

- seek/sought
- bring/brought
- think/thought
- catch/caught

▷ The [i]/[ɛ] alternation in verbs

- feel/felt
- deal/dealt
- mean/meant
- leave/left

▷ Only two lexical items → set

- tell/told
- sell/sold

French morphological process?

gruz. 1.B subtractive morphology ← allomorph dep on masc. vs fem.

Latin gruz. 1.B grammatically conditioned

Persian gruz. 1.C arbitrary ← two allomorphs

10/4 Analytic vs synthetic languages

a division of labor between syntax and morphology (sentence vs word structure)

◦ Analytic Languages

words tend to be mono-morphemic

minimal use of morphological processes

low category per word (CPW) ratio

few bound morphemes

◦ Synthetic Languages

words tend to be multimorphemic

abundant use of morphological processes

high CPW ratio

rich inventory of bound morphemes

10.04.19 CONT.

Wordhood

distinction between analytic and synthetic languages, relies crucially on the notion of 'word'

word = smallest free form found in language

- can bear emphatic stress
- can appear in isolation
- have no fixed position relative to other forms
- are less likely to undergo phonological change when combined with other linguistic elements

CPW ratio (category per word)

Analytic ($CPW=1$)

more tall

the car

she will jump

Synthetic ($CPW > 1$)

taller

Danish: bil-en

Karuk: u-snâk-eesh

Analytic/Synthetic languages

not a binary distinction but a cline

- more analytic expressions, more "Analytic" language
- more synthetic expressions, more "Synthetic" language

QUIZ 1. A

Mandarin - analytic

1) No subject agreement

2) No tense inflection

does not lack morphology

3) No inflectional plural

• all languages make use of derivational morphology

• almost all languages make use of compounding and reduplication

1) ta-men za-su-i-le

2) wo zhui-lei -le

Lexemes
Inflection and Derivation

10.04.19 cont. 10.7.19 Lecture 18 Inflectional and Derivational Morphology

Three types of synthetic language

Agglutinating

- easy to determine morpheme boundaries
- most morphemes express one feature of meaning

Fusional

- difficult to determine morpheme boundaries
- many morphemes express multiple meanings

Polysynthetic

- almost all arguments can be inflected on the verb
- can express the meaning of a sentence with morphology

quiz. 1.B (villala) 2. 3.C

Sura (a polysynthetic language)

10/7 Lexemes

English dictionary you'll find "live" but not "lives, lived"

Spanish

a closely related set of morphological variants based on a single root

lexeme: abstract entity represented by the set of related words

word forms: words that are related to a lexeme

paradigms: table that contains this set of related words

sometimes different tables for every tense like Spanish 'COMER'

dictionary gives single word that stands in for the entries for all the words

Limits of Lexemes

not all morphologically related words belong to the same lexeme

"live, lives, lived" but not "unlivable"

need to decide how close

When are related forms considered to be in the same lexeme?

10/7/19 CONT LEC 18

Inflection and Derivation

word forms in given lexeme are morphologically related and share meaning
but differing in terms of 'event parameterization'

different lexemes - diff meanings, grammatical functions

inflectional morphology - relates diff word forms in a given lexeme

derivational morphology - morphology that relates diff lexemes in a word-fam

inflection	derivation
relevant to syntax	not relevant to syntax
productive	not productive
closes word to derivation	does not close word to inflection
same concept as root (base)	new concept
compositional meaning	sometimes non-compositional
no change of lexical class	sometimes changes lexical class
does not change arg. structure	sometimes changes arg. structure

Relevance to Syntax

inflection 'relevant to syntax' given sentence type requires infl morph on
the words it contains

- 1) My cat/*cats likes this
- 2) I saw the jogger/cat

Productivity

inflectional morphemes are productive

many English nouns don't take <-s> ⇒ *feet, *oxes, *sheeps

productivity of derivational morphemes low

<dom> is an example - limited range in lexicon stardom, freedom, wisdom

inflection closes a word to derivation

inflectional to one side, then cannot then add derivational morphology

<-s> inflectional <-ize> derivational

idol → idolize → idolized

inflectional if you add them

idol → idols + *idolsize

can't add more

10/7/19 cont. lec 18

Changing Concepts

inflectional morphemes add either

- a minimal or delicate sense distinction

- a very specific sense that is (close to) invariable

"run" vs "runs" where inflection does not materially alter concept

"run" vs "runner" - derivational morphology alters thing

Compositionality

derivation creates the new concept - way may be non-compositional

colorful, sinful, beautiful, peaceful - property of having X

wonderful, awful, sorrowful, peaceful - property of causing X

grateful - no added meaning from -ful

masterful - ?

Changing lexical class

inflectional morphemes do not change the lexical class when added

cat (N) cats (N)

slice (V) sliced (V)

derivational morphemes may change the lexical class

wise (adj) wisdom (N)

happy (adj) happiness (N)

mother (N) motherhood (N) (same)

Changing argument structure

derivational morphology can alter the argument structure of a verb

change transitivity of V or rearrange arg. structure

make intransitive ↔ transitive

Inflectional and derivational typology

inflectional

- for verbs: tense, aspect, mood, # agreement
- for nouns: #, case
- for adj: gender agree, # agree

derivational

- nominalizers: turns (V) to (N) - tion
- verbalizers: (N) to (V) - ize
- changes core meaning un-, re-

10/7/19 cont. lec 18

Verbal inflectional morphology

- person / # / gender of event participants
- tense · temporal 'location' of an event relative to some ref point
- aspect · temporal viewpoint on an event
- mood · interactional 'force' of an utterance

Nominal inflectional categories

- number · nouns can bear overt morphology indicating #
- gender · category involving partitions of nouns of lang in largely arbitrary ways
- case · indicates grammatical relations

Agreement

- not inflectional category but morphosyntactic phenomenon where inflectional play a pivotal role
- some characteristic associated w one word marked on another

Examples of derivational morphology

HW5 Ling 10/9/19

his = ?i
my = ?a

[?anhokspa] 'I hoe it'

[?inhokspa] 'You hoe it'

[?iku?t] he ate it

[?inku?+pa] you eat it

act
-ive
-ate
-tron

-let in English
Derivation and word structure

10/14/19 Grammar of Words Lec 19

The affix <-let> in English

quiz B. small

Diminutive suffix - indicates smallness, then by extension, the others

C. could be either derivational or inflectional - sometimes

A. limited range of application \Rightarrow derivational

A. non-compositional, substantial, meaningful contribution \Rightarrow derivational

Italian diminutive -in

C. <let> doesn't want to be separated from root \Rightarrow more derivational

Derivation and word structure

A. adj (put in frame)

C. verb

B. N \rightarrow V en-trap (think of other ex: encircle)

C. dry-clean

B. black-board

Heads and structure

words on right of compound determines lexical class

Similar pattern w/ derivational affixes - suffixes determine lex. class

think, rethink (V)

¹morpheme on right

refuse, refusal (Adj)

RIGHT-HEADED

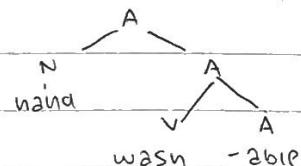
English words tend to be right-headed

Head: part of combination of forms that determines the class of the whole

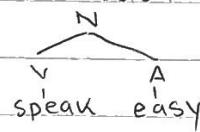
- Compounds and derivation

Not all:

Internal Derivation



Unheaded



SYNTACTIC CATEGORIES
CONSTITUENTS
CONSTITUENCY TESTS

10.16.19 LECTURE 21 CONSTITUENTS

SYNTACTIC DISTRIBUTION

QUIZ 1 2.A

SYNTACTIC CATEGORIES

INCLUDE OPEN LEXICAL CATEGORIES

AND CLOSED LEXICAL CATEGORIES: aka FUNCTIONAL CATEGORIES

ARGUMENTS AND ADJUNCTS

- IN WORD ORDER TYPOLOGY - REFER TO LARGER UNITS LIKE 'SUBJECT' AND 'OBJECT' RATHER THAN SPECIFIC LEXICAL ITEMS
- THESE ARE ARGUMENTS OF VERBS
 - INTRANSITIVE VERB TAKES JUST A SUBJECT
 - TRANSITIVE VERB TAKES SUBJECT AND OBJECT
- ARGS OF VERBS ARE NOT SINGLE WORDS, BUT ARE GROUPS OF WORDS
- ADJUNCTS ARE OPTIONAL WORDS (OR PHRASES!)

SALLY LIKES SMALL FLUFFY BROWN DOGS

SALLY LIKES DOGS

CONSTITUENTS

- GROUPS OF WORDS THAT CAN ACT SYNTACTICALLY AS ONE UNIT
- ALSO CALLED PHRASES
- ALL ARGS OF VERBS, AND ALL ADJUNCTS ARE CONSTITUENTS

BASIC TYPES OF CONSTITUENTS

• TYPES OF GROUPS OF WORDS THAT CAN ACT SYNTACTICALLY AS ONE UNIT

NEXT PAGE

10-16-19 Lec 21 cont.

▷ Noun phrases (NP)

determiner + adjectives + noun

NP can be args of verbs

[the big brown dog] slept - NP slept

[the big brown dog] destroyed [his fav toy] - NP destroyed NP

▷ Prepositional Phrase (PP)

preposition + noun phrase

PPs are often adjuncts, so there can be several in a sentence

The dog slept [on the couch]

The dog slept [on the couch] [by the TV] [in the morning]

▷ Sentences (S)

a verb with all of its arguments and adjuncts

[our dog chased her cat]

Sentences can also be complements of verbs

We said [our dog chased her cat]

We told [the mayor] that [our dog chased her cat]

Constituency Tests

Syntactic construction / behaviors that provide evidence for existence of const.

1) Substitution Test

if a sequence of words can be replaced by a pro-form

- pro-NP : he/sue/it/they
- pro-PP : here/there
- pro-VP : do so/aid so
- pro-S : so

quiz 1.A 2.C 3.C 4.C 5.

2) Fragment Answers

quiz 1.C 2.Yes 'boat' 3.No doesn't work

make a question so seq of words is the answer

cont.

Review for Midterm 2

- Morphological trees
- Interlinear glossing
- Finding underlying forms
- Finding allomorphs
- constituency tests
- Grammaticality
- Word order typology

10.18-19 Lec 22 Review: Wordorder

3) Clefting/Fronting

quiz 1.

try to put a group of words in the beginning of the sentence
if grammatical then probably constituent

4) Pseudoclefting

take out a phrase, turn rest into relative clause, put back together
with the verb 'be' in between

10/18 Review: Morphological trees

seal / ve able un noun

quiz: 1.C 2.B 3.D 4.A 5.A

find root, follow rules to segment out morphemes

Review: Interlinear glossing

content morpheme - meaning independent of context of a sentence

functional morpheme - perform a function, dependent on the context

copy down content morpheme: cat, red, dream

functional get capital abbrev: 3SG, PROG, PL

quiz: 1.C 2.E 3.C 4.A 5.

watch for infixes

Review: Finding underlying forms

quiz: 1.C

rule notation /am/ → [am]/-# or prose
[m]/V-Y
[am]/...

Review: Finding allomorphs

quiz: 1.B 2.A, all but B

Review: Constituency tests

quiz: 1.D 2.B 3.B 4.x D + 'Today' 5.B (pref) 6.X
putform frus cleft

Review: Grammaticality

grammatical, ungrammatical, semantically anomalous

quiz: 1.C 2.C 3.B

midterm 3

Review
NP rule
S rule
VP rules

10-23-19 Lecture 23 Constructing a Grammar

Word order typology

English - subject, verb, object

these are args of verbs

Adjuncts are optional phrases

10-23 Five Observations about Syntax

- Sentences have internal structure
- can identify the structure using constituency tests
- Some constituents are arguments (required) others are adjuncts (optional)
- we can identify the category of words and constituents by examining their syntactic and morphological distribution
- also need to account for order of words

Arguments and adjuncts

- | | | |
|----------------------------------|----|------------------------------|
| • obligatory | vs | • optional |
| • cannot have more than required | | • can have many |
| • fixed order with each other | | • free order with each other |

Lexical and phrasal categories

open lexical categories

Noun (N), verb (V), adjective (adj), adverb (adv)

Closed lexical categories

Determiner (Det) Prepositions (P) Conjunctions

Phrasal categories

S, NP, VP, PP

Grammar - the goal

explicit procedure for constructing all grammatical sentences in a language
and no ungrammatical sentences

- speakers can judge grammaticality so our grammar models linguistic knowledge
- theory of competence - human knowledge of lang. not performance

10.23.19 Lec 23

Limitations - impossible to do for all of Eng in class. won't model:

- auxiliary verbs (can, will, might)
- quantifiers (numerals, all, both)
- negation (didn't, not)

Grammar generates it?

quiz: 1. B (car not on list of nouns) 2. B (nested) 3. A 4. rule 2 says optional (input \rightarrow output)
recursive! no rules stops from keep going

Sentences

Made up of a noun phrase and a verb phrase

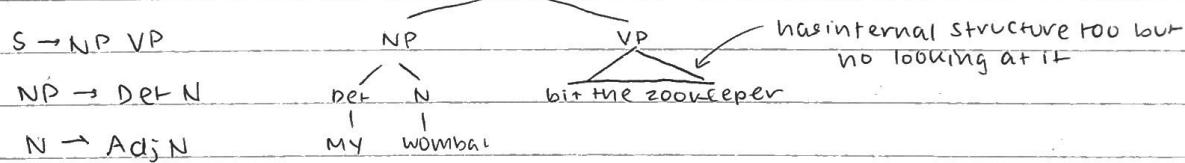
[The angry reporter] NP [screamed] VP] S

[My wombat] NP [bit the zookeeper] VP] S

can be described by phrase structure rule

$S \rightarrow NP VP$

Sentence trees



Subcategories of verbs

Intransitive verb (= VP): no complement

[The dog] slept.

Transitive verb (= TV): one NP complement

[The dog] chased [the cat]

Ditransitive verb (= DTv): two NP complements

[The dog] brought [the lady] [the cat]

Sentential complement verb (Sv): one S complement

I think [the dog likes the cat]

10.23.19 LEC 23 cont.

VP Rules

$VP \rightarrow V$, $VP \rightarrow TV NP$, $VP \rightarrow DTV NP NP$, $VP \rightarrow SVS$

(V_0)

(V_1)

(V_2)

(V_s)

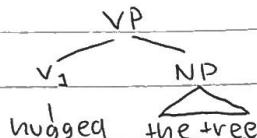
slept
arrived
laughed

hit
hugged
ate

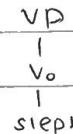
gave
showed
sent

said
thought
believed

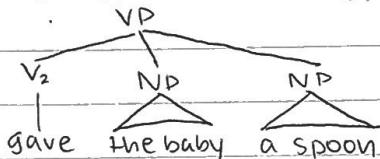
• structure of a VP with a V_1 like hugged



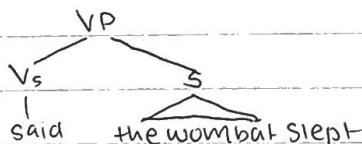
V_0 like slept



• structure of a VP with a V_2 like gave



• structure of a VP with a V_s verb like said



Sentence complement VP

1. $S \rightarrow NP VP \rightarrow$ recursion

7. $VP \rightarrow Vs S \rightarrow$

what kind of verb is this?

quiz: 1. $V_2, C (V, NP NP)$ 2. $D (Vs)$ 3. $B (V_1)$

Adverbs adjuncts not arguments

optional, free order, can be recursive

$VP \rightarrow Aadv VP$

$VP \rightarrow VP Adv$

$Aadv \rightarrow \{angrily, already, yesterday\}$

quiz: 1. B (no) 2. A (yes)

Malagasy

Tzotzil

Yurok

Prepositional Phrases

10.28.19 Lecture 25 Constructing a grammar. part 2

10.25.19 Lecture 24 Languages other than English (Detour)

Malagasy

10.28 So far our English grammar

$$S \rightarrow NP VP \quad VP \rightarrow V_2 NP NP$$

$$NP \rightarrow Det N \quad VP \rightarrow Vs S$$

$$N \rightarrow Aa; N \quad VP \rightarrow Adv VP$$

$$VP \rightarrow V_0 \quad VP \rightarrow VP Adv$$

$$VP \rightarrow V_1 NP$$

Prepositions

on, above, under, of

take a noun phrase complement (like argument)

I put the mail on/above/under the table

* I put the mail on

* I put the mail on happy

the distribution of of is different

Prepositional phrase (PP)

Syntactic distribution

adverbs occurring after NPs and VPs

the bench [in the park]

the dog barked [in the park]

PPs are impossible before NPs and VPs

[in the park] bench

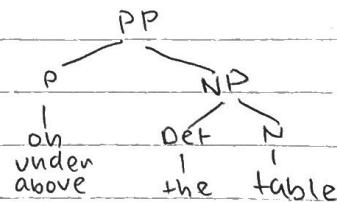
Preposition rules: internal structure

PPs include a preposition and an NP

Prepositions have NP complements

1. PP \rightarrow P NP

2. P \rightarrow {on, under, above}



10.28.19 LEC 25 cont.

PPs are adjuncts that can attach after nouns/NPs and VPs

$N \rightarrow N PP$

Intermediate constituents: one-substitution

which [dog] do you like? The fluffy one under the table
which [fluffy dog] do you like? The one under the table
which [dog under the table] do you like? The fluffy one.

PP adjunction to VP

Evidence for nested VPs

Substitution: The wombat [did so]

Fragment answers: what did the wombat do?

Fronting: [Bite the angry reporter] vp the wombat did

Pseudoclefting: what the wombat did was [bite the angry-]

$VP \rightarrow VP PP$ cause both VPs are constituents

Lexical Ambiguity

a. Sally is going to have the mole on her back removed

b. Sally hates the pesky mole in her backyard

a. we should collect some articles into a reader

b. Sally is an avid reader of sci fi

• love (V.) (N)

• that (Pron, Det)

• fast (Adj, Adv)

Syntactic ambiguity

The cop watched the man with the binoculars

Sandy said Tom would be here yesterday

I know you like the back of my hand

Brief review of English syntactic roles
An overview of Japanese syntax
Headedness in language

10.28.19 LEC 25 cont 10.30.19 LEC 26 NOTES ON JAPANESE

Making ambiguity disappear

analyzing with constituency tests

→ The cop watched [him] ^{belongs}

→ The cop watched [him] with the binoculars

Comments on ambiguity

word order ≠ syntactic structure

- linear order can be predicted from a single syntactic structure

- the syntactic structure can't be predicted from a string of words

Syntactic ambiguity shows that sentence meaning depends on syntactic structure

- sentence meaning can be predicted from syntactic structure

- structure can't be predicted from meaning, though.

10.30 Japanese syntax · word order

S-O-V

Postpositions

Embedded clauses precede verbs (like O in SOV)

Adverbs precede verb

The verb-final constraint

1. A(1) 2. Do not need to revise $S \rightarrow NP VP$

Postpositions

Revise $PP \rightarrow PNP$ with $PP \rightarrow NPP$

$VP \rightarrow VP PP$ with $VP \rightarrow PP VP$

$VP \rightarrow Vs S$ with $VP \rightarrow SVs$

$VP \rightarrow VP Adv$ with

10-30-19 Lec 26 cont.

Japanese VP: complements, -o must be NP complement of verb

VP → NP V.

Japanese VP: pp adjuncts

VP → PP VP

Japanese VP: Adverbs

VP → ADV VP

Japanese S: -ga must be immediately below S

S → NP VP

Japanese S: Don't have two -ga NPs in a row

VP → SVs, Vs → {itta'said', omotta 'thought'}

Cross-linguistic syntactic similarity

no major obstacles in extending syntactic analysis Eng → Japanese

deeper analysis of Japanese syntax confirms analysis is correct

despite fundamental word order differences. Jap, Eng same structure

Heads

The category that labels a phrase is its head

- N is the head of NP
- P is the head of PP
- V is the head of VP
- S has no head

Japanese vs English

1) PP → NP P 1) PP → P NP

2) VP → NP V₁ 2) VP → V₁ NP

3) VP → S Vs 3) VP → Vs S

• heads on right in Japanese

• heads on left in English

Setting the scene
What is meaning?
Kinds of linguistic meaning.

10-30-19 Lec 26 cont. 11-1-19 Lec 27 Semantics

Word order typology

- Postpositional languages (like Jap) are almost all SOV
Lang where embedded S precedes the verb are all SOV
• langs tend to be left or right headed as property of entire lang

Seeds of a theory

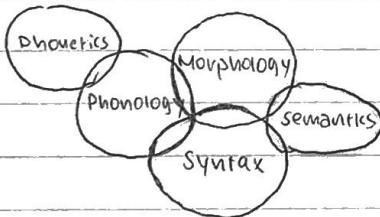
Suppose that English and Jap have same phrase structure, with one diff:

Jap:heads on right · Eng:heads on left

$xP \rightarrow yP X$

$X P \rightarrow X Y D$

11.1 Where is Semantics?



Semantics is the study
of linguistic meaning

What syntax told us about semantics

1. Syntactic ungrammaticality is different from semantic anomaly
 2. Sentence meaning is dependent on syntactic structure
 - Syntactic ambiguity provides evidence for this
 3. A grammar for well-formed syntactic representations can be stated without reference to meaning.

Three uses of the word 'mean'

1. Smoke means fire
 2. Doris means to be nice
 3. Corzón means heart

11.1.19 Lec 27 cont.

Saussurian Sign

quiz. 1. B (David Hasselhoff is signifier) 2. A (he himself is signified)

what makes a sign?

Corazón means heart.

1. Linguistic signs are arbitrary
2. Linguistic signs are conventionalized
3. Linguistic signs have capacity to be combined

Sinn und Bedeutung

Two components to linguistic meaning: Sinn (sense) vs. Bedeutung (reference)

- The reference of an NP is the person, object, or entity that it indicates
- The sense of an NP is the "mode of presentation" the NP provides for that reference

quiz. 1. A (sense is mode of pres)

Sense vs Reference

following NPs have diff senses, same reference

1. I visited China
2. I visited that country [point to it on map]
3. I visited the most populous country in the world
4. I visited the host of 2008 summer Olympics

why distinguish the two? They capture distinct, but equally imp aspects of linguistic meaning

If we disregard reference...

we wouldn't be able to explain

- how we use language to talk about the world around us.
- the fact that the four sentences earlier are true in same exact situations
- the diff in meaning between 'that horse' and 'that unicorn'

11.1.19 LEC 27 cont.

If we disregard sense:

We would be unable to distinguish

1. The morning star is the evening star
2. The morning star is the morning star.
 1. China is the most pop
 2. China is China
 3. The most pop country is the most pop country.
 4. (point to map) That country is the most pop country in world.

- | | |
|--|---|
| can't explain
why these don't
have the same
meaning | <ol style="list-style-type: none">1. I want to visit China2. I want to visit that country3. I want to visit the most populous country in the world.4. I want to visit the host country of summer 2008 Olympics |
|--|---|

quiz. 1. B (no) 2. A (same ref) 3. A (if can assume referring to (A))

Types of linguistic meaning: Sentence meaning

Sentences express propositions

proposition: the claim that a sentence makes about the world

have the capacity to be either true or false

The following both express the proposition

1. Sally visited Molly
2. Molly was visited by Sally.

Types of linguistic meaning: Word meaning

1. Reference
2. Properties
3. Relations

11.1.19 LEC 27 cont.

① Word meaning: Reference

Referential expressions pick out individuals in the world.

Only NPs refer; referring expressions are names and pronouns

Name refer independent of context:

David Hasselhoff

the canonical ref expressions

Pronouns are context dependent

I →

you — whoever is talking, talked about

they /

② Word meaning: Properties

Properties describe traits or attributes that hold of individuals

all open lexical categories (N, V, Adj) can describe properties

N properties : dog, unicorn, universe

V properties : smile, sleep, run

Adj properties : tall, disgusting, blue

③ Word meaning: Relations

relations describe kinds of relationships that hold between two individuals

again, all open lexical categories (N, V, Adj) can describe relations

N relations : mother, enemy, mayor

V relations : hug, drink, admire

Adj relations : taller, grosser, better (comparative)

Types of word meaning

quiz. 1.A 2.A 3.A 4.B 5.B 6.B 7.C 8.C 9.C

More on word meanings
Truth conditions and entailment
compositionality

11.4.19 Lecture 28 Compositional Semantics

Four kinds of meanings

1. Proposition: meaning of S

the claim that a sentence makes about the world

2. Reference: meaning of NP (e.g. names and pronouns)

picks out a specific individual in the world

3. Property: meaning of V₀, non-relational N, regular A

describes a trait which can be true of a single individual

4. Relation: meaning of V₁, relational N, comparative A

describes a kind of relationship which can only be true of two individuals.

Illustrating some semantic formalism

1. Proposition for 'Sally ate a cookie': $\exists x [\text{ate}(s, x) \wedge \text{cookie}(x)]$

2. Reference for 'Sally': s

3. Property for 'cookie': $\lambda x [\text{cookie}(x)]$

4. Relation for 'eat': $\lambda x \lambda y [\text{ate}(x, y)]$

Property sense vs. reference

The sense of a property is some kind of abstract concept, but this is surprisingly difficult to characterize

Three ideas about how to characterize

1. definitions

2. mental representations

3. uses

Yet properties 'refer' to sets of individuals

Property senses as definitions?

Example: glass means 'a receptacle for drinking made of glass'

Problems:

- dependent language

- circular

- often imprecise or

11.4.19 LEC 28 CONT

Property senses as mental images?

Example: bird means what is in your brain when you hear 'bird'

Problems:

- the prototype problem
- many words lack mental images (e.g. universe, impossible, lie)

Property senses as uses?

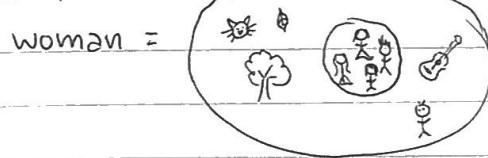
Example: birds are things that you use the word bird to talk about

Problems:

- meanings cannot exist independent of their uses
- using bird to talk about a dog doesn't make it a bird

Properties as sets of individuals

Example:



Problems:

- what about nouns like unicorn
- we don't need to know every possible individual to use the word

The current approach in formal semantics

We will define properties in terms of sets of individuals

- it easily accounts for sentences like Mary is a woman
- it easily can be expanded to include relational meanings, which are just sets of pairs/tuples

$$\text{mother} = \{(\text{Michelle}, \text{sasha}), (\text{Michelle}, \text{Malia}), \dots\}$$

- it is compatible with externalism, the philosophical stance that the notion of truth is determined by the facts which hold in the world

11.4.19 Lec 28 Cont

Sentence Meanings

Sally fixed the car

- Sentences express propositions, or claims about the world
- Propositions have truth values, either true or false
- To know the truth value of a sentence, you must know its truth conditions
 - If the truth condns hold of the world, the sentence is true
 - If the truth condns do not hold of the world, the sentence is false

Sentence sense and reference

Sally fixed the car

- The sense of a sentence is its truth condition ie. the cond in which it's true
- The reference of a sentence is its truth value: true or false

Entailment

Entailment: Sentence X entails a sentence Y if whenever X is true, Y must be true as well.

- Our lang ability includes knowledge of entailment relations
- Entailment is at the core of human meaning and reasoning

An example of entailment

1. All dogs bark

2. Sally's dog barks

(1) entails (2) b/c if it's true that all dogs bark \rightarrow true Sally's dog barks

(2) does not entail (1) b/c it could be true Sally's dog barks w/o all dogs bark

The truth conditions of (1) include the truth cond of (2)

Note:

Entailment is a very strong relation: if X is true, Y must be true

1. Sally's dog barks.

2. Sally's neighbors are annoyed

11-4-19 Lec 28 cont.



Entailment ≠ truth values

We cannot know if X entails Y just by knowing truth vals, only truth condition

1. Barack Obama was the 44th President of the United States

2. China is the most populous country in the world

(1) does not entail (2) although both are true

For example, (2) was true before (1) was

Entailment and reference

The reference of proper names is assumed to be part of one's knowledge of language, so we have entailment in the following pairs:

1. Ian has visited Spain

2. Ian has visited Europe



Semantic composition

1. The dog likes Sally

2. Sally likes the dog

These sentences have exact same 3 words, but their truth condns are indep

Two factors in determining sentence meaning

1. The words in the sentence (lexical semantics)

2. The way the words are put together (the syntax)

An axiom for meaning:

The Principle of compositionality: The meaning of a sentence (or any multi-word expression) is a function of the meanings of the words it contains and the way in which these words are syntactically combined

Infinite syntax and semantics

Our syntax knowledge allows us to build an infinite number of sentences

We have a corresponding semantic system which allows us to understand an infinite number of sentences, including those never heard before



11.4.19 LEC 28 cont.

- a. I stuffed my apron full of cheese and frantically ran away from the dairy snatches.
- b. It seemed unlikely that this book will spontaneously combust while you are reading...
- c. The platypus is enjoying a bubble bath.

One caveat: idioms

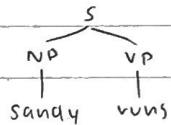
• Some kind of words and sentences have non-compositional meanings

• The best example of these are idioms

- a. Polly kicked the bucket.
- b. Polly died
- c. Polly gave Tim a hard time. — easing it
- d. Polly teased Tim

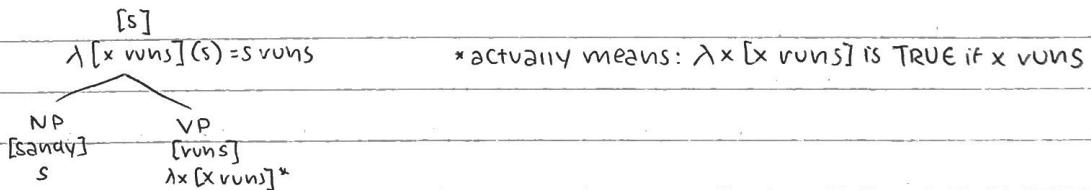
Interpreting $S \rightarrow NP VP$

How do we interpret this sentence?



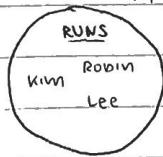
- Sandy is referential, it picks out a specific individual
- Runs is a property, it describes traits which hold of a particular set of individuals
- For Sandy runs to be true, it must be the case that Sandy is a member of the set of individuals that runs.

Composition achieved

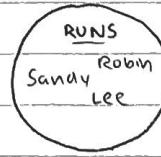


Evaluating truth conditions

$\lambda x[x \text{ runs}]$



Sandy runs is false

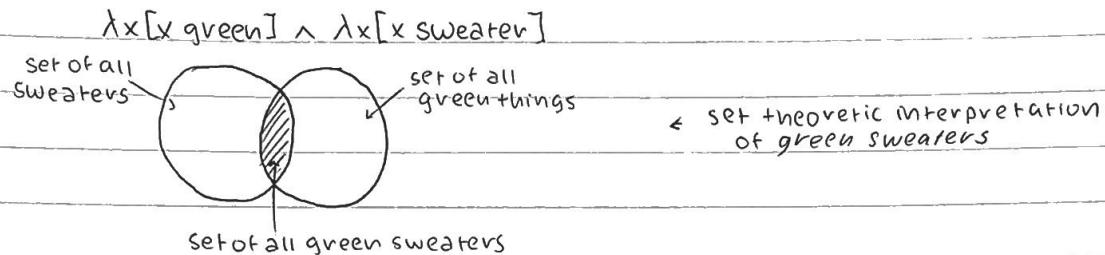


Sandy runs is true

Kim
Michael

verb meanings
Theta roles
Linking theta roles and arguments
11.4.19 Lec 28 cont. . . 11.6.19 Lecture 29 Theta Roles

The meaning of green sweaters



11.6 griz: Verb meanings [ADE] Enailment of verbs [A]C]

Verb Meaning

Enailment of: X kicked Y

X's foot made forceful contact w/ Y

X moved X's foot on purpose

Verbal enailments seem to be dependent on and make claims about their arguments

Certain verbal enailments occur across many diff verbs and allow us to classify verbs

These

More about theta roles

(1) FRANCESCA

- We say that a verb assi
- The number of theta roles a verb assigns corresponds to its number of arguments
- So KICK
 - agent
 - patient

11.6.19 LEC 29 CONT

More about theta roles

Every NP must receive a theta role

Verbs must assign their theta roles to only one arg

NPs which are not args of verbs get assigned a theta role by their preposition

1. Francesca cooked the popcorn in the kitchen

2. Francesca cooked the popcorn in the microwave

Theta Roles

1 Agent 5 Source

2 Experiencer 6 Goal

3 Patient 7 Location

4 Instrument

① Agent

General properties of agents:

- in control of the event
- apply force
- cause the action
- often show an animacy restriction

1 Francesca jumped 2 The table jumped

3 Francesca ran 4 The table ran

② Patient

General properties of patients:

- not in control of the action ie non-volitional
- doesn't apply force
- does not cause the event
- are affected by the event, either in change of state or loc

1 The table broke 2 The package disappeared

3 The ice melted

11.6.19 Lec 29 cont.

Agents and Patients

When agents and patients are in the same sentence with transitive verbs, the agent is always the subject

In passives, sentences, the patient is the subject and the agent is in a by-PP, an adjunct

The elephant crushed the tent

The tent was crushed by the elephant

(3) Experiencers

General props of experiencers

- must have a mental state
 - the verb describes the mental state of this arg
 - the mental state can be pos or neg
 - always show an animacy restriction
- 1 Fatima worried
3 Fatima admired Francesca

Experiencer objects

- Like agents, experiencers can be subjects of intransitive verbs
- Patients can only be subjects if verb is intransitive
- Experiencer obj typically agent subjects
- Experiencer is somewhat unique as a theta role as it is often either subject or object

Fatima admired Francesca vs Francesca annoyed Fatima

Fatima worried vs The storm worried Fatima

(4) Instruments

General props of instruments

- describe the means by which an agent does the event
 - usually an adjunct introduced by with or by
- Francesca ate the sushi with a fork

11.6.19 Lec 29 cont

Instruments

Instruments as subjects or objects

- in with certain verbs, instruments can be subjects (in the absence of an agent, as in #1 and #2 below)
- the number of verbs that take experiencers as objects is limited, but they exist (as in #3 below)

1 The key unlocked the door 3 The lady used the knife

Sources and Goals

General props of sources:

- describe the origin of motion or force
- usually introduced by preposition

General props of goals:

- describe the destination of motion or transfer
 - often introduced by a preposition
- 1 Fatima ran from the woods 2. Francesca jumped into the pool

Goals in ditransitive

Verbs with two NP complements (v_2) always assign a goal and a patient; the goal always comes first

1 Fatima threw the dog a bone 3 *Fatima threw a bone the dog

Sources and Goals

• Goals and sources are often adjuncts - of intransitive or transitive verbs (#1 & #2)

• Because they are adjuncts, goals and sources occur together (#3).

1 A bug crawled out of the hole

3. A bug crawled out of the hole towards the chef.

11.6.19 Lec 29 cont.

LOCATION

General props of locations:

- Describe where the event takes place
- Motion events must be contained within the location
- Always introduced by preps; usually adjuncts

1 Fatima ran in the woods

OUR SEVEN THETA ROLES

(Agent, Experiencer, Patient) args of V₀ and V₁,

(Instr, Source, Goal, Loc) appear as adjuncts

Goal can be one complement of ditransitive verbs V₂

The linking problem

Why do certain theta roles get linked w/ certain positions?

- Subjects of V₀ can be agents, patients, or experiencers
- Subjects of V₁ are agents, experiencers, or instruments
- Subjects of V₂ are always agents
- Complements are patients, experiencers, or goals.

One solution: The theta hierarchy

Agent < Experiencer < Instrument < Patient < Goal < Source < Location

• If a verb has more than one argument

1. Assign the highest-ranked argument to subject
2. Assign the second-highest argument to direct object
3. Assign the third-highest argument to indirect object

Summary

- One component of compos. meaning is that V intro entailments about their args — these entailments fall into systematic classes → theta roles
- Theta roles and the theta hierarchy help us understand why certain args are associated with certain meanings

The meaning of 'the'
Variation of the meaning 'the'
Quantification

11.019 LECTURE 30 CROSS-LINGUISTIC SEMANTICS

Principle of compositionality

Interpreting $S \rightarrow NP VP$

The meaning of green sweaters

Categories and meaning

open lexical categories (V, Adj, N) can be prop or relation

phrases can be referential (NP) or propositional (S)

We have not examined meaning of closed lex categories (Det, P, Conj)

Today: (Det) and quantifiers

The meaning of 'the'

Two components in the meaning of definite articles like the:

1. The referential function

the converts properties into referential expressions / individuals

2. The definiteness function

the requires uniqueness in the context

Sentences with and without 'the'

(1) a. I like marmots

b. I like the marmots

(2) a. Marmots are cute

b. The marmots are cute

property vs reference

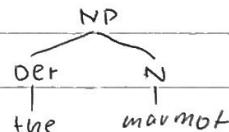
The meaning of 'the'

How do we get from prop to ref

- marmot is a property; describes traits which hold a particular set of individuals

the marmot can refer to a particular individual like a pronoun / name

∴ the is a function from properties to individuals: property → reference



11-8-19 LEC 30 cont.

conditions on use

#The marmot is big

- In order to use 'the' forever to a marmot, there must be a unique marmot in the context
- This uniqueness condition on the use of 'the' is called a presupposition
- Many determiners do not carry a uniqueness presupposition

#The marmot is big

A marmot is big

Some marmot is big

One marmot is big

the and uniqueness

- | | |
|-----------------------|------------------------|
| (1) a. the sun | (3) a. the campanile |
| b. #a sun | b. #a campanile |
| (2) a. the chancellor | (4) a. the UC Berkeley |
| b. #a chancellor | b. #a UC Berkeley |

The meaning of 'the'

- Two components in the meaning of definite articles like the:
 1. The referential function
the converts properties into referential expressions / individuals
 2. The definiteness function
the requires uniqueness in the context

- In contrast: indefinite articles like a(n) can be referential but never require uniqueness

Languages without the

Mandarin Example

A further complication

- a. A man walked into a room
- b. The man was tall and menacing

A different kind of definiteness

Definite in the discourse context, but not in the world

Two kinds of definiteness

Uniqueness: Gottlob Frege

the (and definiteness) is about uniqueness

the indicates a referent in the world

Familiarity: Irene Heim

the (and definiteness) is about prior use or knowledge of the referent

the indicates a referent in the discourse (an anaphor)

Lakota (Siouan)

Mandarin again

familiar definites in Mandarin require a demonstrative determiner

...

English again

Two uses of the in English

Unique use of the

a. the campanile

b. # a campanile

Familiar

a. A man walked into a room

b. The man was tall and menacing

The definite article in English is ambiguous between the two meanings

11.8.19 Lec 30 cont.

Summary

Lakota

- Unique definite: kiy
- Anaphoric definite: kuy

English

- Unique definite: the
- Anaphoric definite: the

Mandarin

- Unique definite: Ø (bare noun)
- Anaphoric definite: na (demonstrative = 'that')

Quantification

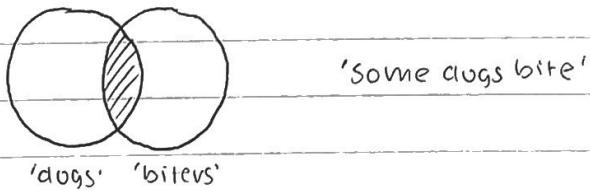
So far we discussed these types of meaning

1. reference - individuals
2. properties
3. relations between individuals

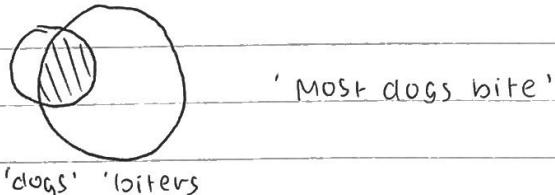
Quantification: A new type of meaning

relations between properties

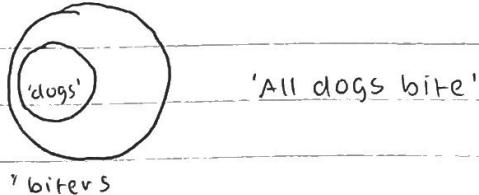
The word 'some' is a quantifier



The word 'most' is a quantifier

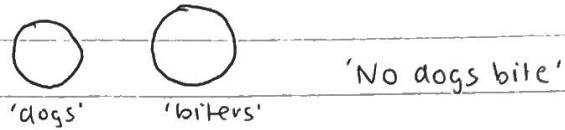


The word 'all' is a quantifier



11.8.19 Lec 30 cont 11.12.19 Midterm review

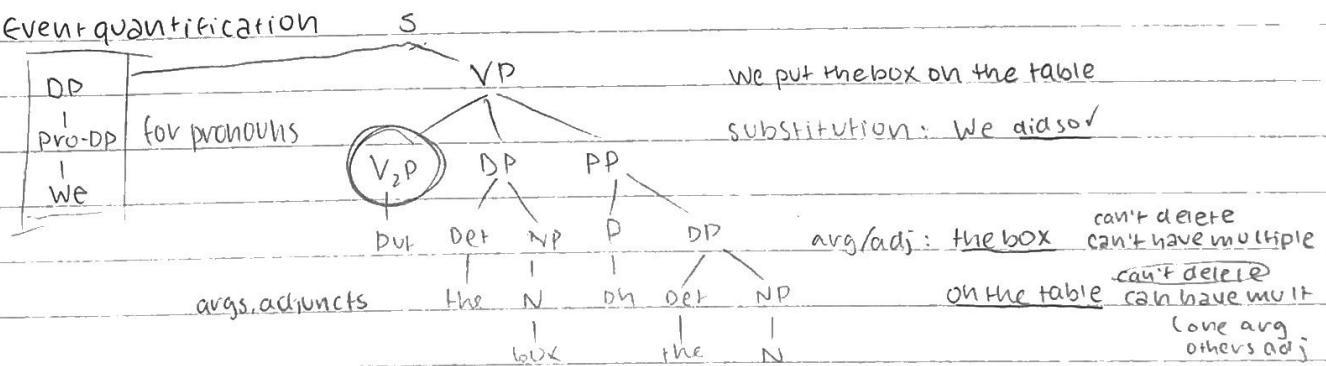
The word 'no' is a quantifier



D- vs A-quantifiers

quantificational determiners vs adverbs

Event quantification



* Look over Japanese, Malagasy

Lang files: p.237 #5-11, 28, 29 (ch5)
#23 (ch6)

Alice admired the landscape

Alice annoyed her brother

Patient go out

agent go out patient

fvevch

patient fell

UNACCUSATIVES

ANSWER

negatives

V_o

theta hierarchy can help

11.12.19 Midterm 3 Review cont.

Syntax in other langs

VOS

gave box a me to child young the

v DP PP

no NumPs on test

(look at eng rules
decide what to skip)

NP → N

always there

NP → NP Adj

DP → NP Det

VP → V₂ DP PP

PP → NPP P

fizal.

Deixis

Presupposition

conversational implicat.

11.15.19 Lecture 31 PRAGMATICS

Semantics versus Pragmatics

- L • literal meaning
- non-literal meaning
- |
- sentence (propositional) meaning
- utterance (speaker) meaning
- truth-conditional meaning
- non-truth-conditional meaning

Deixis

the notion of deixis captures a range of expressions that 'describe' entities within the wider social, linguistic, or spatiotemporal context of an utterance'. Deictic words are interpreted relative to context

- [You] must stop talking now — personal
- Frank moved [here] last year — spatial
- [Sally] must behave for [Mommy] — social
- This will be in the [next chapter] — discourse
- I'm going to the park [this Saturday] — temporal

pop quiz: 1. E (temp) 2. B (spatial) 3. D (discourse) 4. A (personal) 5. C (social)

Presupposition

a presupposition is an underlying assumption that must be satisfied in order for an utterance to make sense, or for it to be debatable

- The Amazon River runs through northern Europe
- The Amazon River does not run through northern Europe
 - both of them presuppose: There is an Amazon River.
- The monster under my bed has fangs.
- The monster under my bed does not have fangs
 - both of them presuppose: There is a monster under the bed

11-15-19 Lec 31 cont.

Presupposition vs entailment

- presup and entailment are similar — if a proposition is true, both its presuppositions and entailments must also be true
- but we can use negation to distinguish them
→ presup survives negation, entailment does not

1. The Amazon River runs through Northern Europe
2. The Amazon River does not run through Northern Europe
3. There is an Amazon River (presupposed by 1&2)
4. The Amazon River runs through part of Europe (entailed by only 1)

Presupposition triggers

A range of lexical items and linguistic constructions can trigger presupps

1. [The apartment] is in need of cleaning — definite reference
2. [It was] the landlord who lost the keys — cleft construction
3. When did you [begin] exercising? — change of state verb
4. She [regretted] going to the concert. — factive verb
5. Jamee [managed] to arrive on time. — implicative verb
6. Bill was [as] drunk [as] Sally. — comparison of equality
7. Joe failed his driving test [again]. — iterative
8. [After arriving], the driver made a call — temporal
9. Liam [is a better] fencer than Sandy — comparative
10. [If I were King of the world...] — counterfactual conditional

Conditions on Presupposition

consistent with knowledge

- John died before he completed the project

consistent with utterance implicatures

- Zoe's mother was disappointed that she wrecked the car. — (if Zoe wr...)

'certain linguistic contexts'

- The mayor doesn't know that the bid was rigged (3rd) — (I don't know that...)

11.15.19 Lec 31 Cont.

Conversational implicature

Alice: Are you going to Sacramento on Sunday?

Susan: I'm behind on work

Alice: Too bad

- What did Susan say?
- What did Susan convey?
- What did Alice understand?
- Where does this added meaning come from?

Gricean maxims

The dynamics of conversation are guided by implication (speakers) and inferences (heavers) based on the cooperative principle.

• The cooperative Principle: Make your conversational contributions suit the purpose of the conversation.

• Grice's maxims

Quality

- Do not say what you believe to be false.
- Do not say that for which you lack adequate evidence.

Relevance

- Be relevant.

Quantity

- Make your contribution as informative as required.
- Do not make your contribution more informative than is required.

Manner

- Avoid obscurity of expression, avoid ambiguity,
- be brief, and be orderly

11.15.19 LEC 31 (cont.)

Conversational implicature

Alice: Are you going to Sacramento on Sunday?

Susan: I'm behind on work.

When interpreting a conversational turn, the hearer:

- starts from the assumption that the talker is being cooperative and obeying the Maxims
- if the speaker appears to be un-cooperative there must be reason
- if a certain assumption would make the speaker's utterance cooperative, then assume that
- Implicature - the assumption that it is necessary to make the speakers' utterances cooperative

Apply the cooperative principle:

• Assume: Susan is being cooperative

• Susan is violating the Maxim of Relevance.

• If Alice assumes that Susan has to work on Sunday, then Susan appears more cooperative

• Implicature - evidently, Susan has to work on Sunday

Alice (looking to borrow a car): Does Jay have a car?

Susan: I saw him driving to school last week.

Apply the cooperative principle:

• Assume: Susan is being cooperative

• Susan is violating the Maxim of Quantity

• Implicature - Alice doesn't know for sure if Jay has a car.

Alice (regarding their pessimistic friend): Jay is such a positive guy!

Apply the cooperative principle:

• Assume: Alice is being cooperative:

• Alice is violating the Maxim of Quality

• Implicature - Alice thinks that Jay is pessimistic (with humor)

- studying variation
- the social role of variation
- indexing social identity

11-15-19 Lec 31 cont. 11-18-19 LECTURE 32 SOCIOLINGUISTICS

A scalar implicature

words on a scale can implicate the others. If you use one that is lower on the scale it implies that one higher on the

A: Mike put some of the bolts in the box

- Assume: A is being cooperative
- There is no maxim violation - Quantity: be as informative as req
- Implicature - Mike did not put all of the bolts in the box

A conventional implicature

some words like even or but implicate an expectation was not fulfilled

A: Even Sam came to the party.

- Assume: A is being cooperative
- There is no maxim violation.
- Implicature - Sam was not expected to come to the party.

11/18 Language and Dialects

Linguistic variety: any form of language characterized by systematic features

Iaiolect: the language variety of an individual speaker

Dialect: a form of lang spoken by a group of speakers (a linguistic community)
which is systematically diff from other forms of the same language

Mutual intelligibility: the ability of two speakers from different dialects
of the same language to understand what each other are saying.

German Dialect 1910

endpoints mutually intelligible

Dialect map of the US

11.18.19 Lec 32 Cont. 11.25.19 Lec 32 Cont.

Talking about variation

Linguistic variable · A specific feature that varies between speakers of different dialects

Isogloss · A boundary that marks the distribution of two variables

Regional dialect variation · Variation that is geographically defined

Social dialect variation · Variation that is defined based on social factors, including age, gender identity, class, ethnicity, sexual orientation, etc.

Phonological variable : 'been'

2nd person plural, you guys versus y'all

soda vs. pop vs. coke

Two ways to identify dialects

1. Surveys · <http://www.businessinsider.com/american-english-dialects-maps-2018-1>

2. Sociolinguistic interviews or readings · <http://accent.gmu.edu>

people from everywhere reading the same passage

Standards and prestige

Standard dialect · An idealized dialect associated with speakers associated with privileged or powerful social status

Nonstandard dialect · A dialect associated with speakers outside the standard.

These are social effects · Linguistically speaking, no one dialect or language is better, more correct, or more systematic, or more logical than any other

Arabic dialect groups

Modern Standard Arabic

Dialects and social class

People in higher social strata sometimes believe it's because it reflects 'natural' order

Experiment: people higher on power scale accommodated to voice less

11-20-19 LEC 32 cont.

Linguistic variation in society

The social stratification of English in New York City (1966)

- connected use of postvocalic /r/ and social class in NYC

visted three department stores

- high class

- mid class

- working class

Speech register

use of [r] inc in repeated speech, evidence of a formal register

sales people at nicer stores had inc rate of [r] use in repetition

Types of linguistic prestige

Overt prestige: choosing to identify with the standard

covert prestige: choosing to differ from the standard

Labov's Martha's Vineyard Study

demonstrates role of covert prestige in rural community

studied the centralization of [aw] / [aɪ] to [əw] / [əj]

used detailed interviews and questionnaires

found: peak in centralization at 31-45 (age)

more centralization in up-island towns (geographic)

more centralization in fisherman (occupation)

Explanation: high centralization closely correlated with expressions of

strong resistance to summer people

- ALSO - covert prestige

The social meaning of variables

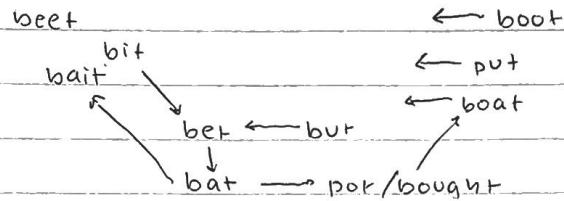
Linguistic variables are resources that speakers use

- to actively negotiate their identity

- taking on diff environments to take on diff 'personas'

Generational Differences
SES - socio-econ status
Age-graded variation
Change in progress, apparent time and real time
11-20-19 Lec 32 cont. 11-22-19 Lec 33 Sociolinguistics

Example: The California vowel shift



Thinking about vowels

Why is the Cali vowel shift happening?

- Language change in action
- A marker of regional accent
- (white?) Californians constructing distinct Cali identity

Eckert (2008) 'Where do ethnolects stop?'

An ethnological split in [æ]

missing

prestigious elementary students more ethnic
outsiders - white sounding kids

11-22 Generational differences

We know that languages change

ex: words that rhymed before: eat, meat, great, state

so when you see a diff between old and young speakers

natural to infer change has taken place

Research on "sound change in progress" finds apparent cases of change
and others of stable patterns of age-graded variation

Socio-economic status

Many studies of sociolng. code speakers by SES

based on inequalities - wealth, privilege, opportunity (largely arbitrary)

people w/ similar privilege, wealth, opp mix with each other forming bonds

11.24.19 Lec 33 cont.

A rough classification of SES based on occupation

UMC, MMC, LMC, UWC, MWC, LWC

The variable (ng)

The variable (ng) is often studied because it varies; easily noticed, coded

'something' - [sʌmθɪŋ] versus [sʌmθən]

'thing' words, '-ing' morpheme

pop quiz: 1. B (non-standard) 2. B (non) 3. A (womenmorestand) 4. A, B

(ng) in Sydney, Australia

use of [ɪn] is conditioned by social class, age, and gender

Teens use more [ɪn], is this a change in progress?

but also [ɪn] may mark an ethnic affiliation

May be a stable-age-graded variation

('zed') in southern Ontario

the letter 'z' is pronounced [zi] in the US and [zed] everywhere else

[zi] is an American shibboleth in Canada

Adults in Canada avoid it, but children get it from shows

Age diff., but this is a stable pattern of variation.

children stop saying it that way

Age appropriate (?) in Glasgow

pop quiz: 1. B (reduced not-stop), C

'water' [wɔ:tər]

low prestige variant - glottal stop for [t]

all kids seem to have it but MC and UWC adults don't

"children learn that variants favored in informal speech are associated with lower social status in the wider community"

Linguistic Privilege and prescriptivism
Ricuford & King
African American vernacular English

11.22.19 Lec 33 cont. 11.25.19 Lec 34 Sociolinguistics and the courts

Real time change in Tsuruoka

More use of the standard variants in 1991

Older people less likely to use the standard variants

Pop quiz: 1.A (segmental) 2.C (25)

(CH) in Panama

Pop quiz: 1.C (20 yrs)

[tS] to [S] (lenition) - change in progress

Younger people use [S] more than older

Twenty-somethings use [S] most

Later in 30's, their use of the variant drops

11.25 Unearned linguistic privilege

Keith native speaker, rarely neg stereotyped, never surprised

Language prescriptivism

- Linguist prescriptivism is telling people how they should talk/write
- Fundamentally, this kind of lang reveals classist assumptions about linguistic superiority
- These assumptions are reinforced as part of many students' education
- These assumptions also play an important role in society: people make assumptions about other people's intelligence based on how they speak

'Language and linguistics on trial'

Vernacular language in the courtroom

Two groups of speakers are at a disadvantage in legal proceedings:

- Second language or foreign language speakers
- "Second dialect" speakers

11:25:19 LEC 34 cont.

Examples from Rickford & King (2016)

Types of linguistic differences which lead to misinterpretation in Eng

- Phonological: "properly his father" vs "probably his father" /p/-/b/
- Lexical/semantic: "half moon" meant "crescent moon" - event at night
- Pragmatic: Silence interpreted as uncooperativeness or dishonest, when it is seen as normal to begin a response with silence in AE

African American Vernacular English (AAVE)

The language of the African diaspora in the US

- Not a single dialect; many distinct variations of AAVE across the US
- Shares a number of traits with non-AAVE dialects, e.g. Southern English
- Often derided in pop media. School Board endorsed use of ebonics in class

AAVE speakers and the law

- African American men are six times more likely to be incarcerated than white men in US
- Many issues facing AA defendants in US courts
- Inc. (1) attitudes about AAVE (2) court's lack of proficiency in AAVE

AAVE in courtroom

1965 case: convicted of murder despite communication issues.

'testimony had been incomprehensible to them.'

Trayvon Martin

Killed on 2/26/12 by George Zimmerman

Zimmerman acquitted due to lack of evidence

Rachel Jeantel: on phone. Martin felt fear that man was following him

11.25.19 LEC 34 cont.

①

Central Points of Rickford & King's Paper

Jeanne speaks a relatively typical variety of AAVE

This led people to misunderstand and discredit her testimony

① Syntactic features of AAVE

1) Auxiliary subject inversion (embedded questions w/o if or whether)

- I do remember him asking me, have I ever got a gun before
- I was asked, did I go to the doctor or anything

2) Existential it not there

- Monday it was a rumor going around his school

3) Stressed BIN as a remote phase marker

- I BIN knew it was the last person to talk to Trayvon [= had known for while]

4) Invariant habitual be - That's where his headset be at

5) Preterit ain't - They ain't [= didn't] call my number

6) Negative concord - It don't mean nothing to me

②

② Morphological features

1) Ø Third singular present -s:

- 'It make Ø him hungry'

2) Ø Possessive -s:

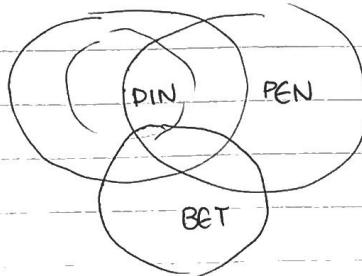
- 'His daddy Ø fiancée Ø house'

3) Ø Plural -s:

- 'A couple second Ø later'

③ Phonological features: pin/pen merger

A southern feature



language change and diversification
sound change and reconstruction
11-25-19 LEC 34 cont. 12-2-19 LECTURE 35 HISTORICAL LING: SOCIAL CHANGE & RECONSTRUCTION

Phonological features: cluster reduction

fast - [fæs]

passed - [pæs]

diff environments — percentage

AAVE most common is past tense preconsonantal - passed field

Comments of a journalist

Jones and Kalbfleisch (2017)

court reporter experiment with 6 AAVE and 10 non-AAVE

- AAVE speakers - 100% correct transcription and paraphrase
- Non-AAVE speakers - 45% accurate

What can linguists do?

Analyze non-prestigious dialects of languages

- linguistic system whether prestigious or not
- stigma makes study more difficult

Educate future jurors/judges/lawyers about linguistic privilege

- classroom
- public forum

Advocate for interpreters

12.2 Historical Linguistics

quiz: 1. A (NYC) Theodore Roosevelt

Linguistic Diversification

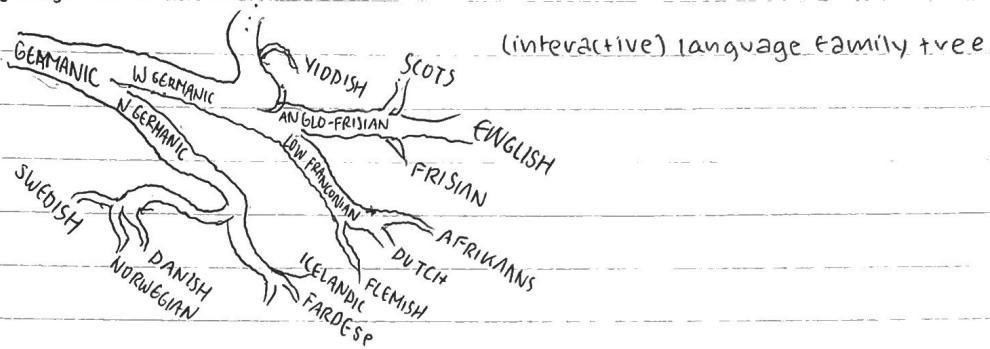
geographic separation + language change

leads to "linguistic diversification"

ultimately the split of a language at one time
into 'daughter' languages at a later time

12.2.19 Lec 35 cont.

Language families



Types of Language change

sound change: below

Semantic change: jument meant 'pack horse' then → "mare/female horse"

Syntactic change: Greek ex: losing the infinitive

pop quiz: 1.B (*the/o grápho*)

Sound change: An example

Zaparoan family. Proto-zaparoan (PZ) → 4 langs

Prof Lev Michael reconstructed phonological inventory: allows us to:

- infer sound changes experienced in the diversification and evo of daughter langs
- infer aspects of PZ culture and society

Ex: lenition of *ts > s

How do we reconstruct sounds?

· sometimes have written records · "linguistic fossils"

· but usually have to rely on data from modern languages

Comparative Method · reconstruct props of extinct proto-langs

before explaining CM - discoveries:

- Regularity of sound change
- Natural sound changes

Regularity of sound change: Some examples

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REGULARITY OF SOUND CHANGE: SOME EXAMPLES

*ts>s

*c>cⁱ/i-

This diachronic palatalization processes also reg but diff

*ts>s is an unconditioned sound change: affected proto-sound of all envs

*c>c_i is a conditioned sound change: affected proto-sound in specific env

both reg and systematic sound changes

imp as one important base or comp method

NATURAL SOUND CHANGE

Another critical finding that helps us reconstruct speech sounds is a very strong directionality in sound change, with certain sounds tending to change into others and not vice versa

ex: *ts>s (not s>ts) and *c>cⁱ/i- palatalization (*cⁱ>c/i- rare)

In general what historical linguists have found is that processes of lenition and assimilation are extremely common in sound change, but that opposite process fortition and dissimilation are very rare.

so we have a choice between:

lenition or fortion

assimilation or dissimilation

we choose former, common processes over

other common sound

• De

• Apocope

• Epenth

Tracing Sound changes

How sound changes lead to diverse forms of lexical items in particular daughter languages

Four

- P
- C
- L
- A

See how

- In doing reconstruction with the comparative methods, we 'unwind' the sound changes in question to reconstruct proto-sounds and proto-words
- What we see
 - reflex of the sound -

ex:

Key idea behind

1)

2)

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Proto-Zaparoan for TOOTH

pop quiz: 1.C 2.A 3.C

The Comparative Method: Initial steps

1

The comparative method

- Cognate Sets
- Correspondence sets
- Reconstruction
- Subgrouping

12.4.19 Lecture 36 Historical Linguistics: The Comparative Method

Reflexes of proto-sounds

Each proto-sound in PZ changed in particular ways → particular sounds in particular daughter langs

- we call the sounds descended from the same proto-sound - reflex

ex: *s are [ʃ] in

- when *s is after *i

Key idea behind the comparative method

1)

2)

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