Morphology
- Ling 105-

Spring 2023

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(she/her)

Week 8, Class 1

Roadmap for today's class

1. Free forms vs bound forms
2. Clitics vs affixes
3. Lexical integrity
4. MORPHO-PHONOLOGY

Announcements

- Instructions for Assignment #3 posted
- Details and sign-up sheet to come up in the next few days

Clitics vs Affixes

What is a **clitic**?

- What could a definition of clitic be?

- Perhaps the most salient property of clitics is that they have freedom of host selection
  - i.e. a clitic can often occur with hosts of various syntactic categories, and its host need not be syntactically related to it

- English clitic =**'s** has freedom of host selection = ***how much freedom?***

Do clitics have the same freedom as the alleged freedom that affixes show?

I. Affixes do not have such freedom of host selection

-they combine with stems to which they are syntactically related

II. Clitics may be less prosodically integrated with their hosts than are affixes:

- affixes are always within the domain of word stress, but clitics may or may not be

III. morphophonological rules are less likely to operate across the boundary between a host and a clitic than across the boundary between a stem and an affix

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III. morphophonological rules are less likely to operate across the boundary between a host and a clitic than across the boundary between a stem and an affix

- many languages have morphophonological rules that operate within the domain of the word-form, but not within the clitic group

Dutch

- obstruents are devoiced word-finally, and no such devoicing occurs when a vowel-initial suffix follows the same morpheme
- when a vowel-initial clitic follows it, devoicing still occurs
- clitic is 'invisible' to the rule of final devoicing.

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(1)

a.	*verband* 'bandage'	[vərˊbɑnt]	*verband-ig* 'bandage-like'	[vərˊbɑndɪx]	-devoicing; suffix
b.	*ik brand* 'I burned'	[ɪgˊbrɑnt]	*brand=ik* 'I burned'	[ˊbrɑntɪk]	+devoicing; clitic

less-free clitics and **Wackernagel clitics Law**

- Some clitics have less freedom of movement than others
- we can detect some “second-position clitics”

  - aka **Wackernagel clitics**

-appear after the first element of the (simple) sentence, which serves as the host

-depending on the language, the first element may be either the first stressed word, or the first syntactic constituent.

- examples from **Pitjantjatjara** and **Serbian** (next slide)

less-free clitics and **Wackernagel clitics Law**

- examples from **Pitjantjatjara**

(2)

a. *Tjitji-ngku* *=ni* *nya-ngu.*
child-ERG =ACC.1SG see-PST
'The child saw me.'

b. *Tjitji* *nyanga* *pulka-ngku* *=ni* *nya-ngu.*
child this big-ERG =ACC.1SG see-PST
'This big child saw me.'

(Bowe 1990: 12)

less-free clitics and **Wackernagel clitics Law**

- examples from **Serbian**

(3) a. *Marija =ga voli.*
Marija =him loves
'Marija loves him.'

b. *Voli =ga Marija.*

c. **Marija voli =ga.*

(19) a. *Marija njega voli.*
Marija him loves
'Marija loves HIM.'

b. *Voli njega Marija.*

c. *Marija voli njega.*

Clitics vs Affixes

(4)

Clitics	Affixes
freedom of host selection	no freedom of stem selection
possible freedom of movement	no freedom of movement
less prosodically integrated	more prosodically integrated
may be outside the domain of a phonological rule	within the domain of a phonological rule
do not trigger/undergo morphophonological or suppletive alternations	may trigger/undergo morphophonological or suppletive alternations
clitic–host combinations...	affix–base combinations...
do not have idiosyncratic meanings	may have idiosyncratic meanings
do not have arbitrary gaps	may have arbitrary gaps

Clitics are naughty!

- clitics are like affixes in some respects, and like independent word-forms in others
- clitics do not themselves constitute a uniform group
- All clitics are prosodically dependent on a host and have some freedom of host selection
- yet, some clitics are prosodically or phonologically integrated with their hosts while others are not; some have special syntax, but others do not…
- heterogeneous behavior justified at the **diachronic level**
    - inflectional morphology commonly arises from free words
    - arguably clitics represent the intermediate stages in this transition

HOW?

-arguably fast speech processes lead to reduced variants of already prosodically weak grammatical elements

- reduced variants are then susceptible to being reanalyzed by a new generation of speakers as distinct lexical expressions
- over time, these clitics may acquire further affixal properties:
- reduced stem selection reduced freedom of movement, morphological and phonological cohesion, etc.

Lexical Integrity

- words differ from syntactic phrases in many different ways and in a number of crucial respects

Q:
why do these differences exist?
Are those differences crucial to define the concept of **wordhood**?

Lexical Integrity Principle

- the various differences in the behavior of words and phrases might reflect a single general principle:

Lexical Integrity Hypothesis/Principle

Rules of syntax can refer/apply to entire words or the all the properties of entire words, but *not* to the internal parts of words or their properties.

- as far as syntactic rules are concerned, words have no internal structure

Introducing Morphophonology

Leading question:

Do morphemes change based on the phonological environment they appear in?

Phonological allomorphs

- morphemes often have **different phonological shapes** depending on the environment
- environment: other morphemes and sounds with which they co-occur in a word

(1) stem of the English lexeme *leaf* is pronounced **[lif]** in the singular, but **[li:v]** in the plural (*leaves*)

(2) stem of *pat* is always pronounced **[pæt]** if it occurs without any suffix, but in many varieties the pronunciation is **[pær]** if a vowel-initial suffix follows (*patting* **[pærɪŋ]**)

- forms **[pæt]** and **[pær]** (and **[lif]** and **[li:v]**) are **phonological allomorphs**
  -they bear the same meaning and have quite similar phonological shape (in contrast to suppletive allomorphs, which are not phonologically similar)

- Phonological allomorphs represent the point of intersection between morphological and phonological structure.

Alternation: (new) definition

- A morpheme is said to alternate when it appears in different forms in different contexts/environments
- Analysis of alternations is one of the central areas of phonology
- Alternation often arises because of the way that phonology interacts with morphology.

- To show how this happens, it is useful first to present some background material on the **morphology and phonology of English**.

Alternations in English /t/- final stems (I)

- rule of **Preglottalization** derives the *preglottalized* allophones of /p, t, k/ when they occur in word-final position:

Preglottalization

$$\begin{bmatrix} -\text{continuant} \\ -\text{voice} \end{bmatrix} \rightarrow [+\text{constricted glottis}] \,/\, \_\_\_\,]_{\text{word}}$$

A voiceless stop is realized as preglottalized when in final position.

- "preglottalized": I mean that the vocal cords slam shut just before the stop is made
- represented in the feature system with the feature [+constricted glottis], and transcribed here with a preceding superscript glottal stop.

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cap	/kæp/	[kæˀp]
hat	/hæt/	[hæˀt]
hack	/hæk/	[hæˀk]

(Preglottalization is optional, but we will ignore this fact here, with no harm to the point being made.)

Alternations in English /t/- final stems (II)

- **Rule of Tapping**

realizes the /t/ phoneme as a tap [ɾ] just in case it occurs between two syllabic sounds of which the second is stressless

Tapping[1]

$$/t/ \rightarrow [ɾ] \,/\, [-\text{consonantal}] \_\_ \begin{bmatrix} +\text{syllabic} \\ -\text{stress} \end{bmatrix}$$

(Tapping is also optional)

Alternations in English /t/- final stems (III)

- **Rule of Aspiration**
  applies obligatorily to the voiceless stops /p, t, tʃ, k/, rendering them [+spread glottis]

Aspiration

$$\begin{bmatrix} -\text{continuant} \\ -\text{voice} \end{bmatrix} \rightarrow [+\text{spread glottis}] \,/\, X \_\_ \begin{bmatrix} +\text{syllabic} \\ +\text{stress} \end{bmatrix} \qquad \text{condition: } X \neq s$$

Voiceless stops are aspirated when they precede a stressed vowel and are not preceded by /s/.

Alternations in English /t/- final stems (III)

- **Rule of Aspiration**
  applies obligatorily to the voiceless stops /p, t, tʃ, k/, rendering them [+spread glottis]

(3) Data showing the effects of this rule for the phoneme /t/ are given below.

Tom	/tɑm/	[ˈtʰɑm]	vs.	*Atlas*	/ætləs/	[ˈætləs]
tell	/tɛl/	[ˈtʰɛl]		*get*	/gɛt/	[ˈgɛt]
obtain	/əbteɪn/	[əbˈtʰeɪn]		*actor*	/ˈæktɚ/	[ˈæktɚ]
attest	/ətɛst/	[əˈtʰɛst]		*terrific*	/tərɪfɪk/	[təˈɹɪfɪk]
retain	/ɹiteɪn/	[ɹiˈtʰeɪn]		*stun*	/stʌn/	[ˈstʌn]

-No aspiration occurs in *Atlas*, *get*, *actor*, and *terrific* because the /t/ does not precede a stressed vowel.
-*Stun* shows the inhibiting effect of /s/ on aspiration.

Alternations in English /t/- final stems (IV)

- Now we observe the relationship of these three phonological rules with two rules of derivational morphology, given below.

***-able* Affixation** (from p. 109)
Verb + əbəl → Adjective
Meaning: "able to be Verbed"

***-ation* Affixation**
Verb + ˈeɪʃən → Noun
Meaning: "the process or product of Verbing"

- Morphological rules are of phonological interest:
  they can rearrange the phonological environments of the phonemes
- The segments of prefixes and suffixes can themselves be part of the environment of a phonological process
- Consider the following data – **next slide**

Alternations in English /t/- final stems (IV)

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Meaning: "the process or product of Verbing"

(4)

note	*notable*	*notation*
/noʊt/	/noʊtəbəl/	/noʊteɪʃən/
[ˈnoʊˀt]	[ˈnoʊɾəbəl]	[noʊˈtʰeɪʃən]
quote	*quotable*	*quotation*
/kwoʊt/	/kwoʊtəbəl/	/kwoʊteɪʃən/
[ˈkwoʊˀt]	[ˈkwoʊɾəbəl]	[kwoʊˈtʰeɪʃən]

Once the morphology has arranged the appropriate suffixes,
the phonological form of words is accommodated to the new environments that are created.

The selection of the proper allophone of /t / is not established for the stems /noʊt/ and /kwoʊt/ once and for all,
but rather is determined on the basis of the environment in which the stem-final /t/ appears.

Alternations in English /t/- final stems (IV)

To illustrate the concept of alternation, let's take the forms just given in the previous slide, and "strip away" the suffixes:

(5) *note:*

without affix:	['noʊˀt]
['noʊɾəbəl], removing [-əbəl], yields:	['noʊɾ]
[noʊ'tʰeɪʃən], removing [-'eɪʃən], yields:	[noʊtʰ]

(6) *quote:*

without affix:	['kwoʊˀt]
['kwoʊɾəbəl], removing [-əbəl], yields:	['kwoʊɾ]
[kwoʊ'tʰeɪʃən], removing [-'eɪʃən], yields:	[kwoʊtʰ]

- common pattern in languages: alternation results because the phonological rules enforce their demands on the output of the morphology
- a morpheme will not have a constant pronunciation
- the morphology of a language frequently places morphemes in different phonological contexts, and when this happens, the outcome that is demanded by the phonological rules is often different.

Morphology Lab 14

World's languages show some consistent behavior in expressing the imperative with a "morphological device"

-based on WALS (https://wals.info), what patterns of morphological imperative are available in the word's languages?

- if we need to describe a language we don't know anything about, what can we expect about the organization of the imperative?
- is there an implicational scale that could represent the morphological imperative?

Map 70A: The morphological imperative

1. Definition of values

This map shows to what extent languages have second person singular and plural imperatives as dedicated morphological categories.

Values of Map 70A. The Morphological Imperative

Go to map

	Value	Representation
●	The language has morphologically dedicated second singular as well as second plural imperatives	292
●	The language has morphologically dedicated second singular imperatives but no morphologically dedicated second plural imperatives	43
●	The language has morphologically dedicated second plural imperatives but no morphologically dedicated second singular imperatives	2
●	The language has morphologically dedicated second person imperatives that do not distinguish between singular and plural	89
○	The language has no morphologically dedicated second-person imperatives at all	122
	Total:	548

Components and multi-component derivations

- in linguistic theory that the rules of the grammar are arranged into **components**
- **components**: separate systems of rules, each with its own function and rule types.
- In the present case-study, we assume

  (a) **lexicon**, in which morphemes are stored
  (b) **morphological component**, which assembles words by processes of derivation and inflection
  (c) **phonological component**, which assigns a phonetic interpretation to the sequences of phonemes emerging from the morphology

➢In a complete derivation, we show the effects of the two rule components:

-first the morphology assembles words starting from the lexical entries of their morphemes
-then the phonology makes changes in the sounds of the resulting words

Analysis based on components

(7)

Derivations for *quote*, *quotable*, and *quotation*

quote	*quotable*	*quotation*	
Lexicon			
$[\text{'kwoʊt}]_V$	$[\text{'kwoʊt}]_V$	$[\text{'kwoʊt}]_V$	Lexical entry for *quote*
Morphological component			
—	$[[\text{'kwoʊt}]_V\text{əbəl}]_A$	—	*-able* Affixation
—	—	$[[\text{'kwoʊ't}]_V\text{eɪʃən}]_N$	*-ation* Affixation
$[\text{'kwoʊt}]_V$	$[[\text{'kwoʊt}]_V\text{əbəl}]_A$	$[[\text{'kwoʊ't}]_V\text{eɪʃən}]_N$	output of morphological component
Phonological component			
/'kwout/	/'kwoʊtəbəl/	/kwoʊ'teɪʃən/	underlying forms
$^{\text{ʔ}}\text{t}$	—	—	Preglottalization
—	ɾ	—	Tapping
—	—	t^{h}	Aspiration
$[\text{'kwoʊ}^{\text{ʔ}}\text{t}]$	['kwoʊɾəbəl]	$[\text{'kwoʊ't}^{\text{h}}\text{eɪʃən}]$	surface forms

I will see you Thursday:
what can we do in the meanwhile?

- review the lecture slides
- do reading from the **textbook**

  -Chapter 10
- optional reading: Hayes -check Module 8
- take a look at the instructions for Assignment #3

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