

# Morphology

- Ling 105-

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(she/her)

Week 8, Class 2

# Roadmap for today's class

1. MORPHO-PHONOLOGY
2. Syntactic valence, arguments, valence-changing operations.

# Announcements

- Instructions for Assignment #3 posted
- Details and sign-up sheet are now posted

# Morphophonology

Leading question:

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

# 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

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

*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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## Preglottalization

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

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

<i>cap</i>	/kæp/	[kæ <sup>ɪ</sup> p]
<i>hat</i>	/hæt/	[hæ <sup>ɪ</sup> t]
<i>hack</i>	/hæk/	[hæ <sup>ɪ</sup> k]

(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<sup>1</sup>

/t/ → [ɾ] / [−consonantal] — [ +syllabic  
−stress ]

(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

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

*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.

<i>Tom</i>	/tɑm/	[tʰɑm]	vs.	<i>Atlas</i>	/ætɫəs/	[ætɫəs]
<i>tell</i>	/tɛl/	[tʰɛl]		<i>get</i>	/gɛt/	[gɛt]
<i>obtain</i>	/əbteɪn/	[əbʰtʰeɪn]		<i>actor</i>	/ˈæktə/	[æktə]
<i>attest</i>	/ətɛst/	[ətʰɛst]		<i>terrific</i>	/tərɪfɪk/	[təˈɪfɪk]
<i>retain</i>	/riteɪn/	[ɹɪʰtʰeɪn]		<i>stun</i>	/stʌn/	[stʌn]

- 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 + 'eɪʃən → 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: “able to be Verbed”

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Verb + 'eɪʃən → Noun

Meaning: “the process or product of Verbing”

(4)	<i>note</i> /nou̯t/ ['nou̯ <sup>2</sup> t]	<i>notable</i> /nou̯təbəl/ ['nou̯ɾəbəl]	<i>notation</i> /nou̯teɪʃən/ [nou̯'t <sup>h</sup> eɪʃən]
	<i>quote</i> /kwou̯t/ ['kwou̯ <sup>2</sup> t]	<i>quotable</i> /kwou̯təbəl/ ['kwou̯ɾəbəl]	<i>quotation</i> /kwou̯teɪʃən/ [kwou̯'t <sup>h</sup> eɪʃən]

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 /nou̯t/ and /kwou̯t/ 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: [ˈnoʊt]

[ˈnoʊrəbəl], removing [-əbəl], yields: [ˈnoʊr]

[noʊtˈheɪʃən], removing [-ˈheɪʃən], yields: [noʊtʰ]

(6) *quote*:

without affix: [ˈkwouʔt]

[ˈkwourəbəl], removing [-əbəl], yields: [ˈkwour]

[kwouʔtˈheɪʃən], removing [-ˈheɪʃən], yields: [kwoutʰ]

- 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 world'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
<b>Total:</b>	<b>548</b>

# 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

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

(7)

<i>quote</i>	<i>quotable</i>	<i>quotation</i>	
<b>Lexicon</b>			
['kwout] <sub>V</sub>	['kwout] <sub>V</sub>	['kwout] <sub>V</sub>	Lexical entry for <i>quote</i>
<b>Morphological component</b>			
—	[[ 'kwout] <sub>V</sub> əbəl] <sub>A</sub>	—	- <i>able</i> Affixation
—	—	[[ 'kwou't] <sub>V</sub> eɪʃən] <sub>N</sub>	- <i>ation</i> Affixation
['kwout] <sub>V</sub>	[[ 'kwout] <sub>V</sub> əbəl] <sub>A</sub>	[[ 'kwou't] <sub>V</sub> eɪʃən] <sub>N</sub>	output of morphological component
<b>Phonological component</b>			
/ 'kwout/	/ 'kwoutəbəl/	/kwou'teɪʃən/	underlying forms
ʔt	—	—	Preglottalization
—	ɾ	—	Tapping
—	—	t <sup>h</sup>	Aspiration
['kwouʔt]	['kwouɾəbəl]	['kwou't <sup>h</sup> eɪʃən]	surface forms



What can morphology tell us about  
clause structure?

Case-studies from  
Valency-Changing Processes

# Valency changes and alternations

## ➤ What is **Valency**?


It refers to the number of arguments that a Verb can hold

- (1) a. Anna danced
- b. Rita saw Alice
- c. Maria gave [Juan] [a book]


- |      |  |                    |
|------|--|--------------------|
| (1a) | one-place predicate, intransitive verb   | => ONE argument    |
| (1b) | two-place predicate, transitive verb     | => TWO arguments   |
| (1c) | three-place predicate, ditransitive verb | => THREE arguments |

# Valency: transitive, intransitive, ditransitive

<i>Subcategory:</i>	<i>Transitivity:</i>	<i>Example:</i>
$V_{[NP\_]}$	intransitive	<i>laugh</i>
$V_{[NP\_ NP]}$	transitive	<i>hit</i>
$V_{[NP\_ \{NP/CP\}]}$	transitive	<i>ask</i>
$V_{[DP\_ PP]}$	PP transitive	<i>rely</i>
$V_{[NP\_ NP \{NP/PP\}]}$	ditransitive	<i>give</i>
$V_{[NP\_ NP NP]}$	ditransitive	<i>spare</i>
$V_{[NP\_ NP PP]}$	ditransitive	<i>put</i>
$V_{[NP\_ NP \{NP/PP/CP\}]}$	ditransitive	<i>tell</i>



structure



valency

# Typological perspective on Valency

- Can the valency of a verb change, by increasing or decreasing the valency? It can.

**Q:** What is the valency of ‘give’ in (2a) and (2b)?

(2) a. *jox-naa isaa tééré bi* (Wolof)  
give-1sg.perf isaa book the

“I gave isaa the book”

b. *jox -e-naa (\*isaa) tééré bi*  
give-e-1SG.PERF isaa book the

“I gave (away) the book”, “I donated the book”

# Typological perspective on Valency

- Can the valency of a verb change, by increasing or decreasing the valency? It can.
- We are going to see what syntactic strategies are responsible of such change.

- I. **Passive**
- II. Antipassive
- III. Causative
- IV. Applicative

# PASSIVE CONSTRUCTIONS

- (3)      a.        They helped me.                          (active)  
             b.        I was helped by them.                      (passive)

(3a) they = S; A  
me = O; P

(3b) I = S; P  
by them = OBL; A (.)

## Semantics:

The meaning, i.e. the truth conditions, of (1a) and (1b) is the same.

**Typology:** passives are usually found in **Nom-Acc languages**

# PASSIVE CONSTRUCTIONS

- (3)     a.     They helped me.                         (active)  
        b.     I was helped by them.                 (passive)

## PASSIVE construction, Syntax:

- **P** is the subject of the clause (and triggers agreement on the verb)
- **P** has been “promoted” to **S**
- **A**, which is *optional* in the passive and introduced with a *by-phrase*, has been “demoted” to an oblique (PP)

# Passives: syntactic assumptions and interpretations

- Assumption 1

The **Agent** in a canonical, typical, transitive sentence is somehow more **prominent** than other arguments in the sentence.

## **Structural interpretation**

Subjects are higher in the structure than other arguments, subject case is dependent on finiteness.

- Assumption 2

Grammatical relations form a case **hierarchy** in which certain cases are higher than others: **S > O > IO > OBL**

➤ Passives promote elements low on the hierarchy to higher positions.



# Passives promote non-agent elements to higher positions

- Passives make a non-agent more prominent, usually by promoting it to subject.

✓ English allows for **DO** and **IO** to be passivized:

- (4)
- |    |   |                    |
|----|---|--------------------|
| a. | [Lucas] <b>S</b> gave [the book] <b>DO</b> [to Alice] <b>IO</b> |                    |
| b. | The book was given to Alice (by Lucas)                          | <b>DO</b> promoted |
| c. | Alice was given the book (by Lucas)                             | <b>IO</b> promoted |

# Passives promote non-agent elements to higher positions

In some languages **only the DO** can be passivized.

Italian:

(5) a. Paola ha dato il libro a Gianni.

‘Paola gave the book to Gianni.’

ACTIVE

b. Il libro è stato dato da Paola a Gianni.

‘The book was given to Gianni by Paola’

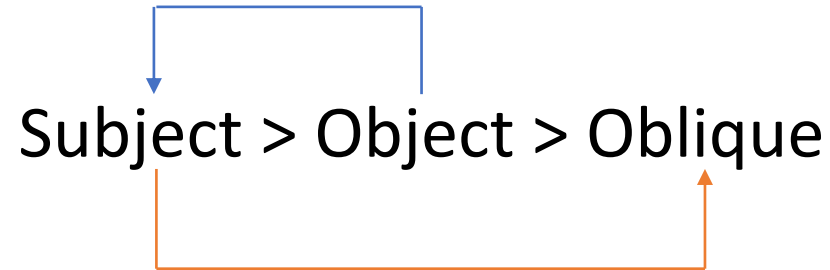
DO  
PASSIVIZED/  
PROMOTED

c. \*Gianni è stato dato il libro da Paola.

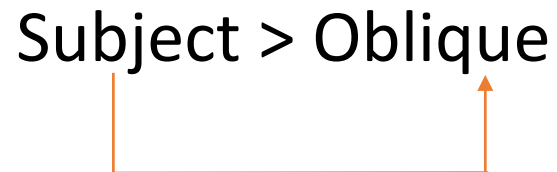
IO PASSIVIZED/  
PROMOTED

# Passives vs Impersonal Passives

- **PASSIVE**: promotion of a P to Subject and demotion (or deletion) of A to Oblique



- **IMPERSONAL PASSIVE**: passives of intransitive verbs, where A is deleted/demoted, but no other NP is promoted to Subject.



# Impersonal Passives: examples

- (6) a. La gente oggi nuota. (standard Italian)  
the people today swims  
'People swim today.'
- b. Si nuota tanto oggi. (impersonal passive; pronoun *si*)  
self= swims much today
- (7) a. Es wurde im Nebenzimmer geredet (German; dummy S)  
it AUX.PASS in next.room talked  
'there was talking in the next room'
- b. Er wordt door de jongens gefloten (Dutch; dummy S)  
it AUX.PASS by the boys whistled  
'there is whistling by the boys'

- wurde/wordt: Passive Auxiliary, 'becomes'

# Impersonal passives and Agent Subjects

- Impersonal passives seem to be restricted to **intransitive verbs** that have **Agent-like subjects**, rather than intransitive verbs where the subject is more of an undergoer:

(8) a. dannswyd ga y plant (Welsh)  
was.danced by the children  
“there was dancing by the children”

b. \*tyfwyd gan y plant (yn sydyn)  
was.grown by the children suddenly  
“there was (sudden) growing by the children”

# Impersonal passives and transitive verbs

## TRANSITIVE IMPERSONAL PASSIVES

Subject is demoted; Object does not promote to Subject and remains in accusative.

- (9) a.        Jetzt wird        den        Rasen gemäht        (German)  
              now AUX.PASS the.ACC lawn    mowed  
              ‘Now the lawn is being/getting mowed’
- b.        Apan-ne bazaar maa jovaa-ya        che        (Gujarat)  
                     we-DOM market in    see.PASS-PFV.MPL be.PRS.3  
                     ‘We have been seen at the market’

# Impersonal passives and transitive verbs

## TRANSITIVE IMPERSONAL PASSIVES

Subject is demoted; Object does not? promote to Subject and remains in accusative.

- (10) a. La gente mangia [le mele] (standard Italian, active, transitive)  
the people eats the.FPL apples.FPL  
'People eat apple.'
- b. Si mangia<sup>no</sup> [le mele]<sup>S</sup> (transitive impers pass; **agreement S-Verb!**)  
self=<sup>eat.3PL</sup> the.FPL apples.FPL

## Arguments undergoing passivization

- Typically in **nominative/accusative** languages, the direct objects of transitive verbs can be passivized (9a,b), but not always (9c,d)

- (11)
- a. They saw me.
  - b. I was seen by them. (passivization)
  - c. Juan had a cat.
  - d. \*A cat was had by John.



# Arguments undergoing passivization

In some languages, like **English**, various non-patients can be promoted to Subject:

(12) a. Alice listened to Maria.

b. Maria was listened to (by Alice). **PASSIVE**

(13) a. Someone slept in this bed.

b. This bed has been slept in. **PSEUDO-PASSIVE**

# Arguments undergoing passivization

In some languages, various **non-patients**-like **dative** can be promoted to **Subject**:

Palauan (Austronesian; Palau)

- (14) a. *a ngelek-ek sme'er er a tereter* active  
DET child-my sick.intrans with DET cold

“my child is sick with a cold”

- b. *a tereter a- l- se'er er-ngiy a ngelek-ek* passive  
DET cold PASS-3SG-sick with-3SG DET child-my

“a cold is being sick with my child”

# Morphology of Passives

- World's languages show different strategies to express passive verbs

(A) **periphrastic passives**: Aux + Lexical/Main non-finite Verb

- Aux = *be / become*  
verbs of *receiving* (like *get*)  
verbs of motion  
verbs of experience

- Lexical/Main Verb = non-finite

(B) **morphological passives** (aka synthetic passives)

# Periphrastic passives: standard Italian

- (15) a. Il gatto è stato visto dai vicini. (Periphrastic; Aux=BE)  
the.MSG cat.MSG is been seen  
'The cat was seen by the neighbours.'
- b. La lettera viene spedita ogni sabato. (Periphrastic; Aux=COME)  
the.FST letter.FSG comes sent every Saturday  
'The letter is sent every Saturday.'
- c. Le mele verranno raccolte domani.  
the.FPL apple.FPL come.3PL.FUT picked tomorrow  
'The apples will be picked tomorrow.'

# Periphrastic passives: WANT-passives in SIDs

- Southern Italian Dialects (SIDs) show the Aux **WANT** in the formation of passives with a **deontic** value

- (16) a. dd'ácina vo cota subbətə (Northern Calabrese)  
the-grapes want.3SG pick.PST.PTCP.FSG soon  
'The grapes need to/have to be picked soon'
- b. Si cammisi vonə lavatə bonə.  
these.F shirts.FPL want.3PL wash.PST.PTCP.PL good.FPL  
'These shirts need to/have to be washed well.'

(Reminder: optional reading, Ledgeway, in press. *Passive periphrases in Romance*)

# Morphological passives

- **Morphological**/synthetic passive: the verb carries out special passive inflection or marking

## LATIN

- (17)
- a. Magister pueros vocat.  
teacher.NOM pupils.ACC call.3SG.PRS.IND  
'The teacher calls the students.'
- b. Ab magistro pueri vocantur.  
by teacher.ABL pupils.NOM call.3PL.PASS.PRS.IND  
'The students are called by the teacher.'

# Morphological passives

- (18) a. *msichana* *a-* *li-* *fungu-a* *mlango* active (Swahili)  
girl CLASS-PAST-open -a door  
“the girl opened the door”
- b. *mlango* *u-* *li-* *fung* *-w* *-a* (*na msichana*) passive  
door CLASS-PAST-open-PASS-a by girl  
“the door was opened by the girl”

# APPLICATIVES

- structures that involve **promotion of an oblique to (direct) object**

(19) a. I wrote a letter to Maria

b. I wrote Maria a letter

b'. I wrote Maria a letter ~~[to Maria]~~ (IO to DO;  
 double object construction)



# APPLICATIVES

- structures that involve promotion of an oblique to (direct) object

Chamorro (Austronesian; Guam, Northern Marianas)

(20) a. *hu tugi' katta para i- chelu' -hu*  
1SG write letter to the-sibling-my

DO APPLIED OBJ

“I wrote the letter to my brother”

b. *hu tugi' -i i- chelu' -hu ni katta*  
1SG write-APPL the-sibling-my OBL letter

“I wrote my brother the letter”

# APPLICATIVE: terminology

- The term **applicative** is traditionally applied to the kinds of constructions discussed in Bantu and Austronesian languages.
- In the syntactic literature, the term applicative is used for a group of analyses for the following types of constructions:
  - double object constructions
  - benefactive dative constructions
  - ethical dative constructions

# Typology Lab 18

Can the following verbs be considered causatives in English? Why?

VERB	CAUSATIVE? Y/N	CAUSATIVE MEANING Example	NON-CAUSATIVE corresponding? Example
BREAK	Y	cause s.thing to break 'Juan broke the window'	Y: 'The window broke'
DRY			
CRY			
EMPTY			
GO			
SHORTEN			
WET			
SING			
NORMALIZE			
DOMESTICATE			

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

- review the lecture slides
- do reading from the **textbook**
  - Chapters 10, 11
- work on Assignment #3
- Attend sections

**STAY SAFE & STRONG**