

# Morphology

- Ling 105-

Spring 2023

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(she/her)

Week 6, Class 1

# Announcement

- Thursday 5/11: Giuseppina away
- Class **not** cancelled
- WORKSHOP on developing a research paper through the campus research resources
- Guest speaker Michelle Brasseur
  - starting time: 4pm PT
  - location: remote (zoom)

# Roadmap for today's class

1. Inflectional & Derivational properties
2. Split morphology
3. Morphology Lab 11
4. hierarchical structures: compounds, inflectional morphemes, derivational morphemes
5. Morphology Lab 12
6. Inflectional classes

# a continuum of Inflection and Derivation

(1)

*are these forms derivational or inflectional?*

Language	Formation	Example	cum	obl	new	unl	cm
English	3rd singular	<i>walk/walks</i>	I	I	I	I	I
English	noun plural	<i>song/songs</i>	D	I	I	I	I
Spanish	diminutive	<i>gato/gatito</i>	D	D	I	I	I
English	repetitive	<i>write/rewrite</i>	D	D	D	I	I
English	female noun	<i>poet/poetess</i>	D	D	D	D	I
English	action noun	<i>resent/resentment</i>	D	D	D	D	D

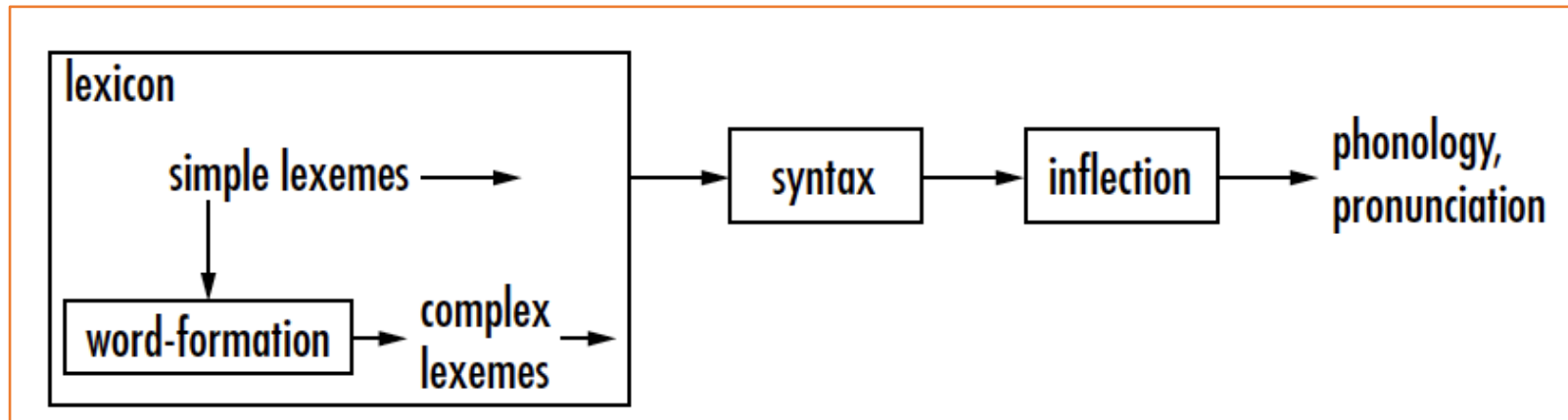
*Note:* cum= cumulative expression; obl = obligatory; new = new concept;  
unl = unlimited applicability; cm = compositional meaning.

# Split morphology hypothesis & the morphology-syntax interface

- dichotomic approach: derivation and inflection have fundamentally different properties
- relevance to syntax: crucial criterion for distinguishing inflection from derivation
- **Split Morphology hypothesis**  
rules of derivation and compounding operate in a component of the grammar that feeds into the syntax; inflectional rules apply only after the syntactic rules have applied

# Split morphology hypothesis

- Rules of derivation and compounding operate in a component of the grammar that feeds into the syntax;
- inflectional rules apply only after the syntactic rules have applied



(2) Domina imperatori epistulam misit.

(Latin)

# Morphology Lab 11

- Use WALS (<https://wals.info>) and answer the following questions

1. In the world's languages what is the *most* common morphological strategy to mark plurality on nouns?

2. In the world's languages what is the *least* common morphological strategy to mark plurality on nouns?

3. Are there languages that do not mark the plural? for example?

# Hierarchical structures

(main reference: Chapters 7 and 9 of textbook)



# Back to compounds

- variability in productivity:
  - N+V and V+N are very rare
- yet, in many languages there are compounds with notional object and verb
  - **noun incorporation** (= object incorporated into the verb)

## (3) Alutor

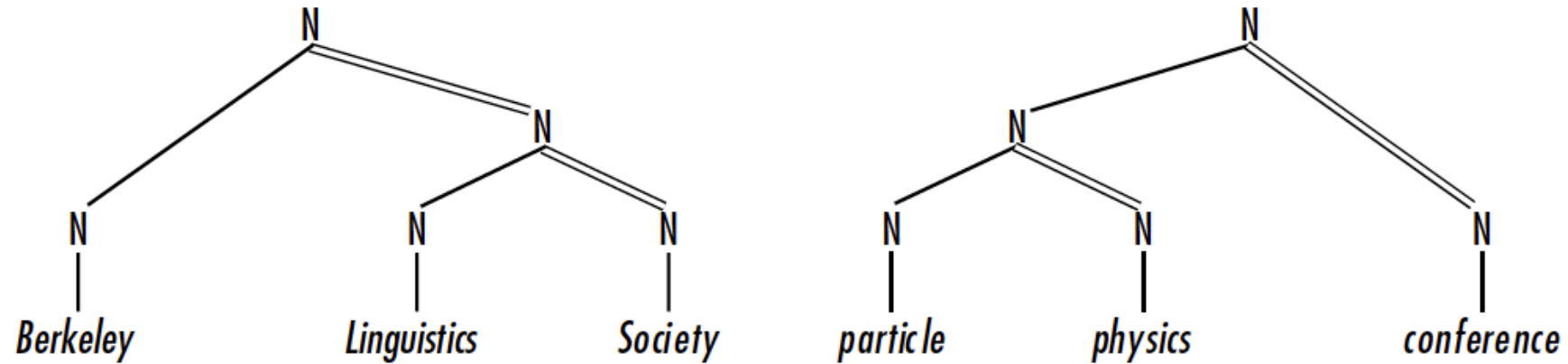
*gəmmə*      *tə-məŋg-ilgətav-ək*  
I              1SG-hand-wash-1SG

'I washed (my) hands.' (Lit.: 'I hand-washed.')

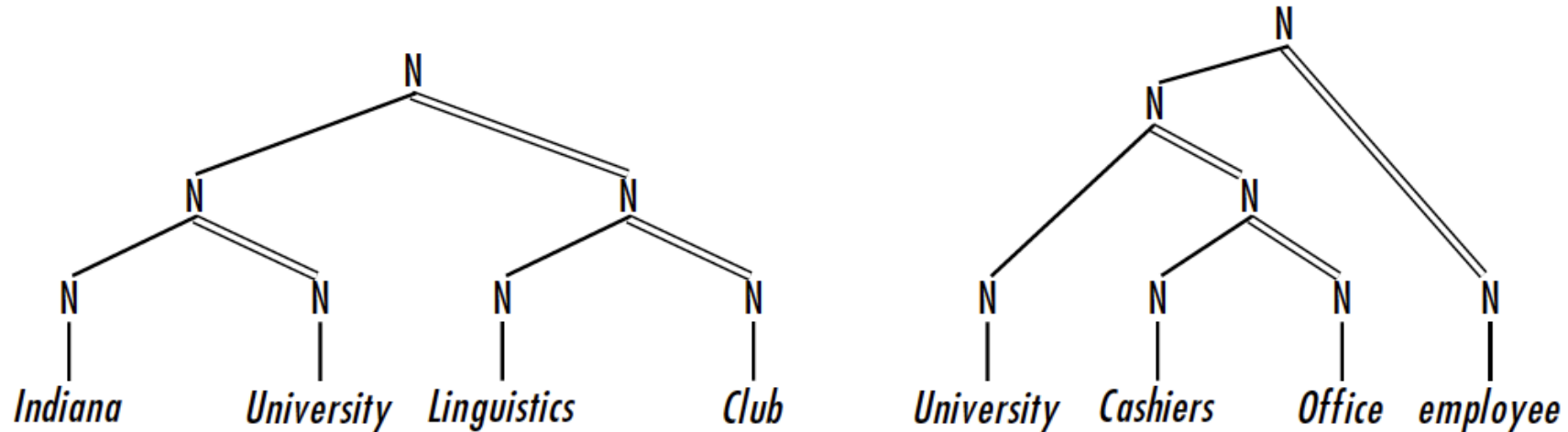
(Koptjevskaja-Tamm and Muravyova 1993: 298)

# Compounds with more than 2 lexemes

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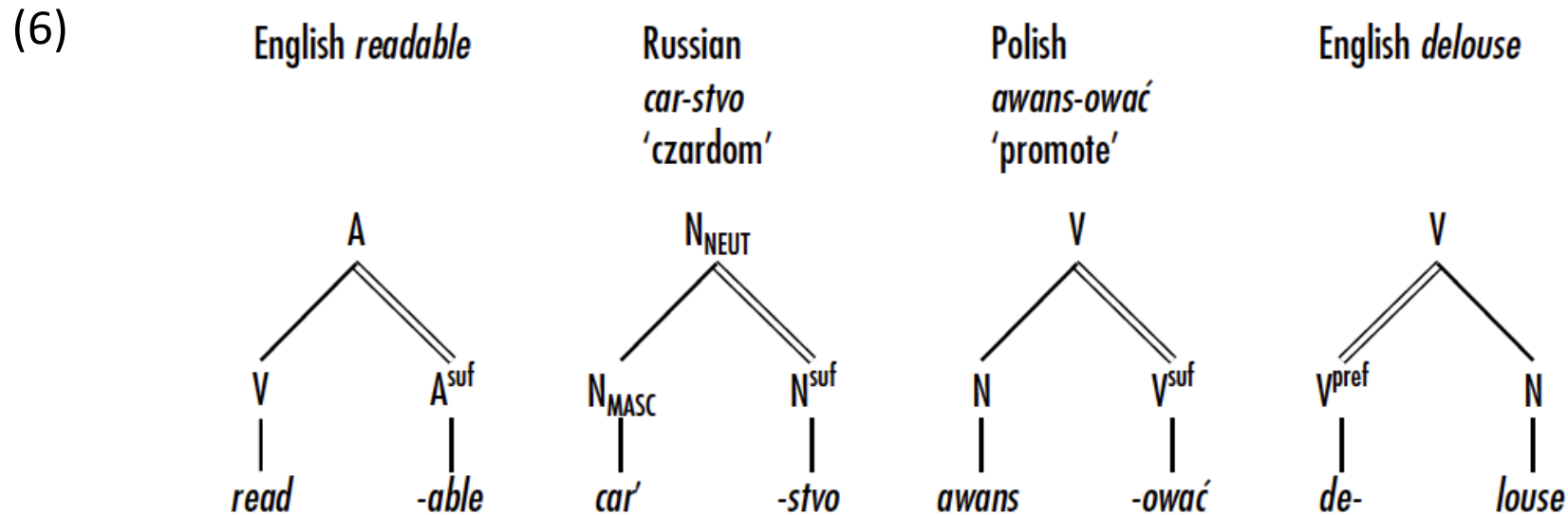


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# hierarchies of derived morphemes

- tree representations have also been used in morphology for expressing certain formal properties of derived lexemes



Many derivational affixes do not determine the word-class and other properties of their derived lexemes (next slide)

# hierarchies of derived morphemes

- Many derivational affixes do not determine the word-class and other properties of their derived lexemes.
- In the European languages, this is true in particular of prefixes and diminutive suffixes.

(7)	English <i>co-</i>	Spanish <i>pre-</i>	Italian <i>-ino</i>
N	<i>co-author</i>	<i>pre-historia</i> 'prehistory'	<i>tavol-ino</i> 'little table'
A	<i>co-extensive</i>	<i>pre-bélico</i> 'pre-war'	<i>giall-ino</i> 'yellowish'
V	<i>co-exist</i>	<i>pre-ver</i> 'foresee'	(Adv) <i>ben-ino</i> 'rather well'

## Morphology Lab 12

Leading question:  
do derivational morphemes interact with the syntactic structure?

Dataset: some standard Italian kinship nouns in DPs

1. (\*il) mio fratello 'my brother' ('il' ungrammatical)
2. \*(il) mio frarellino 'my little brother' ('il' obligatory)
3. \*(il) fratello/-ino di Gianni 'Gianni's (little) brother'
4. (\*la) mia sorella 'my sister' ('la' ungrammatical')
5. \*(la) mia sorellina 'my little sister' ('la' obligatory)
6. \*(la) sorella/-ina di Gianni 'Gianni's (little) sister' ('la' obligatory)
7. (\*la) mia cognata 'my sister-in-law' ('la' ungrammatical)
8. \*(la) mia cognatina 'my sweet sister-in-law' ('la' obligatory)
9. \*(la) cognatina di Gianni 'Gianni's (sweet) sister-in-law' ('la' obligatory)

➤ same behavior: *zio*, *-a* 'uncle/aunt', *cugino*, *-a* 'cousin', etc.

# Inflectional classes

# Syntagmatic vs paradigmatic relations

two broad kinds of relations between linguistic units:

-syntagmatic

-paradigmatic

-syntagmatic: relations between units that (potentially) follow each other in speech; => relative order

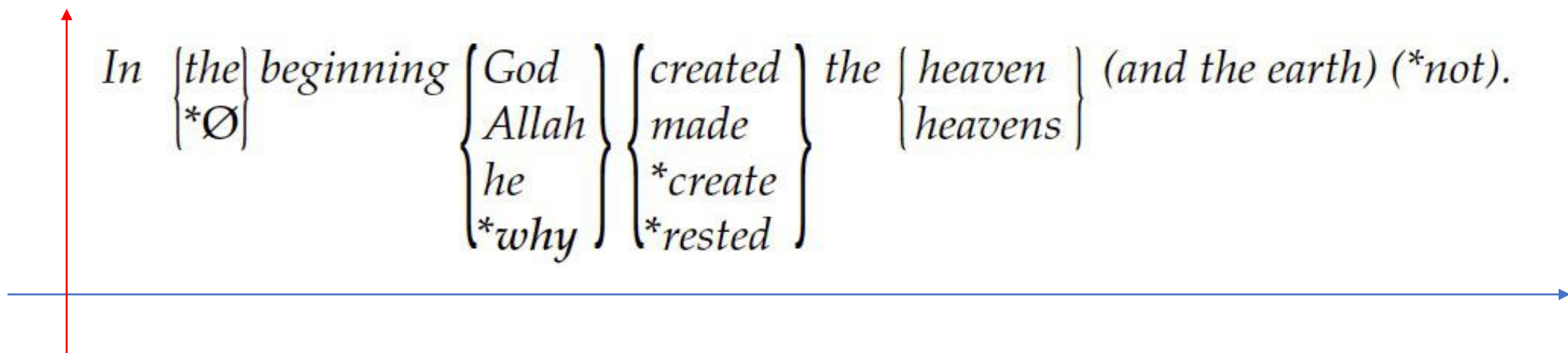
-paradigmatic: relations between units that (potentially) occur in the same slot; => items stand in contrast to one another

(8)

*In* {*the*  
\*Ø} *beginning* {*God*  
*Allah*  
*he*  
\**why*} {*created*  
*made*  
\**create*  
\**rested*} *the* {*heaven*  
*heavens*} (*and the earth*) (\**not*).

# Syntagmatic vs paradigmatic relations

(8)



The diagram illustrates syntagmatic and paradigmatic relations in the sentence: "In  $\left\{ \begin{matrix} the \\ * \emptyset \end{matrix} \right\}$  beginning  $\left\{ \begin{matrix} God \\ Allah \\ he \\ *why \end{matrix} \right\}$   $\left\{ \begin{matrix} created \\ made \\ *create \\ *rested \end{matrix} \right\}$  the  $\left\{ \begin{matrix} heaven \\ heavens \end{matrix} \right\}$  (and the earth) (\*not).". A vertical red arrow on the left points upwards, indicating the paradigmatic relation (vertical axis). A horizontal blue arrow at the bottom points to the right, indicating the syntagmatic relation (horizontal axis).

- **bases** are **syntagmatically** related to affixes that attach to them
- **word-forms** belonging to the same lexeme are **paradigmatically** related because they form a set of contrasting instantiations (*forms*) of the lexeme



# Linear combination vs Paradigmatic dimension

Let's comment together on these two different formalisms

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$$\begin{array}{c} bag \\ \left\{ \begin{array}{c} /bæg/ \\ N \\ 'bag' \end{array} \right\} + \begin{array}{c} -s \\ \left\{ \begin{array}{c} /z/ \\ N - \\ 'plural' \end{array} \right\} \end{array} \rightarrow bags$$

(10)

$$\begin{array}{c} \left\{ \begin{array}{c} /X/N \\ 'x' \\ \text{NUMBER: SING} \end{array} \right\} \\ \updownarrow \\ \left\{ \begin{array}{c} /X_Z/N \\ 'x' \\ \text{NUMBER: PLUR} \end{array} \right\} \end{array}$$

# Syntagmatic and Paradigmatic both necessary

- morphological rules need to capture the **syntagmatic dimension**
  - affixes occur in particular positions relative to their bases
- do we need to also incorporate **paradigmatic rules** into our formal description of language structure?
- some inflectional patterns seem to require a paradigmatic approach
  - paradigmatic relations are part of the architecture of the (inflectional) morphological system
- but first we must introduce the idea of the **inflection class**

# Inflection class: intro

- allomorphy is a challenge for inflection
- let's focus on suppletive allomorphy

(11) Irish

NOM.SG.	GEN.PL	
<i>focal</i>	<i>focail</i>	'word'
<i>muc</i>	<i>muic-e</i>	'pig'
<i>corón</i>	<i>corón-ach</i>	'crown'

-different lexemes show different  
suppletive inflectional allomorphs  
=> those lexemes belong to different  
inflection(al) classes

(12) Old English

INFINITIVE		3RD SG PRESENT		3RD SG PAST	
<i>dēm-an</i>	‘to deem’	<i>dēm-ð</i>	‘deemeth’	<i>dēm-de</i>	‘deemed’
<i>luf-ian</i>	‘to love’	<i>luf-að</i>	‘loveth’	<i>luf-ode</i>	‘loved’

# Inflection class: definition

- Inflection class: set of paradigms that exhibit the same inflectional pattern.
- Inflection classes' size varies
  - if an inflection class has just a single lexeme, we can say that the inflection of that lexeme is irregular
- nominal inflection classes or **declensions** (Irish example)
- verbal inflection classes or **conjugations** (Old English example)

# Examples of languages with multiple inflection classes

- Latin
- Ancient Greek
- Romanian

ETC.

# Inflection class assignment

- Words are assigned to inflection classes based on phonological, semantic, or morphological criteria

## STANDARD ARABIC plural formation

- If the singular has the phonological shape CVCCVC, then the plural has the form CaCaaCiC
- If the singular is CVCCVVC, the plural is CaCaaCiiC

(14)

SG	<i>qayṣar</i>	<i>daftar</i>	<i>dirham</i>	<i>dustuur</i>	<i>quṣṭaan</i>
PL	<i>qayaaṣir</i>	<i>dafaatir</i>	<i>daraahim</i>	<i>dasaatiir</i>	<i>qafaaṭiin</i>
	'emperor'	'notebook'	'drachma'	'statute'	'caftan'

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

- review the lecture slides
- do reading from the textbook
- focus on assignment #2 'Midpoint development of the paper'
- Attend sections

**STAY SAFE**