- **Morphology:**
  The structure of words
- **Word categories**

Background reading:

- *CL* Ch 4, section intro and Appendix
- *CL* Ch **5**, §1.1
- *CL* Ch 4, §1

0. Course information

- Thank you for filling out the survey!
- Some changes we will make:
  - More practice opportunities in lecture
  - More concept review in recitation

0. Course information

- Several comments about “lecture is too fast to write everything down”
  - Writing everything down **is not the goal**
    - Write down **key ideas**, your questions during lecture
    - Take notes on analyses we do out on the whiteboard
  - **USE THE LECTURE SLIDES**

    to review content after lecture

0. Course information

- A number of students expressed worry about not knowing how to prepare for Exam #1
  - We did tell you a week or two ago that there would be a **review guide** posted this week
  - But you have **already been given about 90%** of the info you need to prepare for the exam!
    - Lecture outline [W Aug 30]/F Sept 1, p 2
    - Lecture outline W Sept 6, p 9
    - HW #1–4

- See also: Handout - Tips for success in this course

0. Course information

- Recitation this week will focus on exam review
  - Go over the exam review guide
  - Think about what topics you would most like to review!
  - Your TA will be collecting requests for topics before Friday

1. Word-structure puzzle: Swahili verbs

- The next slide shows a list of **Swahili verb forms**
  - Swahili is a language in the Bantu language family, widely spoken in eastern and southern Africa

- Your task in recitation last Friday:
  Figure out how to say the following in Swahili…

  (a) ‘s/he will pay you’

  (b) ‘you liked them’

1. Word-structure puzzle: Swahili verbs

[atanipenda]	‘s/he will like me’
[atakupenda]	‘s/he will like you’
[atawapenda]	‘s/he will like them’
[nitakupenda]	‘I will like you’
[nitawapenda]	‘I will like them’
[utanipenda]	‘you will like me’
[atanipiga]	‘s/he will beat me’
[atakupiga]	‘s/he will beat you’
[alinipiga]	‘s/he beat me’
[alikupiga]	‘s/he beat you’
[tulikulipa]	‘we paid you’

- **What is…? (a) ‘s/he will pay you’ | (b) ‘you liked them’**

1. Word-structure puzzle: Swahili verbs

- Figure out how to say the following in Swahili…

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1. Word-structure puzzle: Swahili verbs

- Figure out how to say the following in Swahili…

  (a) ‘s/he will pay you’ [atakulipa]

  (b) ‘you liked them’ [uliwapenda]

- How did you determine

  which **sequences of speech sounds**

  were associated with which **meanings**?

1. Word-structure puzzle: Swahili verbs

[atanipenda]	‘s/he will like me’
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[utanipenda]	‘you will like me’
[atanipiga]	‘s/he will beat me’
[atakupiga]	‘s/he will beat you’
[alinipiga]	‘s/he beat (=beat+*past tense*) me’
[alikupiga]	‘s/he beat you’
[tulikulipa]	‘we paid (=pay+*past tense*) you’

- What is…? (a) ‘s/he will pay you’ | (b) ‘you liked them’

1. Word-structure puzzle: Swahili verbs

- How did you determine
  - which **sequences of speech sounds**
  - were associated with which **meanings**?

  → You looked for
  systematic sound-meaning correspondences!

    - What you have just found are some of the **<u>morphemes</u>** that make up Swahili verbs

2. Morphology in the mental grammar

- So far in our investigation of mental grammar, we have looked at
  - ***phonetics*** — the articulation (and acoustics and perception) of **speech sounds**
  - ***phonology*** — how **speech sounds** are represented and altered by the mental grammar

2. Morphology in the mental grammar

- So far in our investigation of mental grammar, we have looked at
  - ***phonetics*** — the articulation (and acoustics and perception) of **speech sounds**
  - ***phonology*** — how **speech sounds** are represented and altered by the mental grammar
- Now we will turn to ***morphology***
  - the part of the mental grammar (and the mental lexicon) that is responsible for **words** and **word structure**

2. Morphology in the mental grammar

- Some words contain smaller meaningful parts

  restandardizing → *re-standard-iz(e)-ing*

  and some do not

  cinnamon

- The meaningful parts of words are **morphemes**

3. Morpheme: sound+meaning

- What's a precise definition of **morpheme**?
  - Our textbook (*CL*, p 123) says that a morpheme is "the smallest unit of language that carries information about meaning or function"
- A useful way to understand this better:

  A **morpheme**
  - shows a **systematic sound-meaning correspondence**
  - **cannot be further divided** without losing this sound-meaning correspondence

3. Morpheme: sound+meaning

- A **morpheme**
  - shows a **systematic sound-meaning correspondence**

restandardizing → *re-standard-iz(e)-ing*

→ can be broken down into meaningful parts

- *standard* 'model, basis for comparison'
- *-ize* 'make into …'
- *re-* 'do … again'
- *-ing* (shows ongoing action)

3. Morpheme: sound+meaning

- A **morpheme**
  - **cannot be further divided** without losing this sound-meaning correspondence

cinnamon 'a particular spice'

→ cannot be broken down into meaningful parts

- *cinnamon* is a single morpheme

4. Analysis: How to find morphemes

- When you solved the Swahili verb puzzle, how did you determine
  - which **sequences of speech sounds**
  - were associated with which **meanings**?

  → You looked for **systematic sound-meaning correspondences**!

4. Analysis: How to find morphemes

Swahili verb	*Gloss (i.e., translation/definition)*
[ata**ni**penda]	's/he will like **me**'
[ata**ku**penda]	's/he will like **you**'
[ata**wa**penda]	's/he will like **them**'

- We can look for what is **different** in *sound and meaning* among otherwise similar forms

4. Analysis: How to find morphemes

Swahili verb	*Gloss (i.e., translation/definition)*
[nita**ku**penda]	'I will like **you**'
[ata**ku**piga]	's/he will beat **you**'
[tuli**ku**lipa]	'we paid **you**'

- We can look for what is **the same** in *sound and meaning* across multiple forms

4. Analysis: How to find morphemes

- We can apply these same principles to morphological analysis in English (or any language)
- Remember: We are building a model of the **rules** of the **mental grammar**
  - Always use **language data** to look for linguistic rules, even in your own language
  - Use the principle of **systematic sound-meaning correspondence** when looking for morphemes

4. Analysis: How to find morphemes

- Remember: We are looking for the **rules** of the **mental grammar**
- Don't be **fooled** by **spelling** or **homophones**
  - Does *caterpillar* have the morphological structure *cat-er-pillar*?

4. Analysis: How to find morphemes

- Remember: We are looking for the **rules** of the **mental grammar**
- Don't be **fooled** by **spelling** or **homophomes**
  - Does *caterpillar* have the morphological structure *cat-er-pillar*? **No!**
  - The meanings 'feline animal', 'one who does an action', and 'column in architecture' are not part of the meaning of *caterpillar*
  - This word has *only one morpheme*

4. Analysis: How to find morphemes

- Remember: We are looking for the **rules** of the **mental grammar**
- ***Morphology*** is not the same as ***etymology***
  - Does a child acquiring a mental grammar of English have evidence that 'transfer' is from Latin *trans* + *fer*?

4. Analysis: How to find morphemes

- Remember: We are looking for the **rules** of the **mental grammar**
- ***Morphology*** is not the same as ***etymology***
  - Does a child acquiring a mental grammar of English have evidence that *transfer* is from Latin *trans* + *fer*? **No!**
  - In a word like *transatlantic*, we do have *trans-* 'across' + *Atlantic*
    - But what is *fer*? → Our analysis: A word like *transfer* is not divided into morphemes **in English**

5. Morphemes and words

- **free form** (the opposite of **free** is **bound**)
  - "an element that does not have to occur in a fixed position with respect to neighboring elements" (*CL*, p 122)
    - Another way to think about this: A free form **doesn't require additional morphemes** in order to be grammatical as a word
  - Many free forms can occur in *complete* isolation (but not necessarily all — the morpheme *the* is free but you almost never say just "The.")

5. Morphemes and words

- Try it: Which of these morphemes are **free**?
  - *cat*
  - *s* (plural for nouns)
  - *win*
  - *ing* (ongoing action for verbs)
  - *sub* (meaning 'under', not 'submarine' or 'sandwich')

→ Remember:

- Although we sometimes use spelling for convenience when discussing morphemes…
- …morphemes are sequences of **phonemes**

5. Morphemes and words

- Try it: Which of these morphemes are **free**?
  - *cat* | free
  - *-s* (plural for nouns) | Hyphen indicates bound!
  - *win* | free
  - *-ing* (ongoing action for verbs)
  - *sub-* (meaning 'under', not 'submarine' or 'sandwich')

5. Morphemes and words

- **word:** “the smallest free form found in language” (*CL*, p 122) | **Really??**
  - By this definition, is *cats* [kæt-s] a word?
  - Should *cats* [kæt-s] be a word?

5. Morphemes and words

- **word:** ~~"the smallest free form found in language"~~
- Let's try this again… A **word** is:
  - a **free form**
  - **cohesive** — nothing[1] can intervene[2] between its parts while keeping the word's *meaning* intact

[1] Infixes, which we will discuss later, are (by definition) a *principled* exception to this claim

[2] 'Intervene' must also be interpreted with some linguistic sophistication, to distinguish words from phrases
(…more about phrases in the next chapter…)

5. Morphemes and words

- To sum up:
  - **Words** are **free**
  - **Morphemes** can be **free or bound**
  - **Words** contain **one or more morphemes**

- Next we will see:
  - Words have internal **structure**
  - The mental grammar of a language includes **rules** for **combining** morphemes to make words

6. Word categories

- How do we tell what **word category** (N, V, A,…) a particular word belongs to?
- Word category is important in morphology, because **different categories have different rules** for forming words
- Note: **word category** is also called
  - **syntactic category**
  - word class
  - lexical category/functional category

    But: linguists don't usually use the term 'part of speech'

6. Word categories

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- How do we tell what **word category** (N, V, A,…) a particular word belongs to?
  - Meaning as a criterion?

    A clue, but not fully reliable — translating a meaning from one language to another doesn't always use the same word category

    Note the 'typically', 'usually' hedges in the gray box on p 125 in *CL*!
  - Inflection as a criterion?

6. Word categories

- How do we tell what **word category** (N, V, A,...) a particular word belongs to?
  - Meaning as a criterion?
    A clue, but not fully reliable
  - Inflection as a criterion? (plural, past tense, comparative,...)
    Moderately useful — but there are always exceptional category members, so be aware
    > Do ***all*** nouns have a plural form?
    > Do ***only*** nouns have a plural form?
  - Distribution as a criterion?

6. Word categories

- How do we tell what **word category** (N, V, A,…) a particular word belongs to?
  - Meaning as a criterion?
    A clue, but not fully reliable
  - Inflection as a criterion? (plural, tense, comparative,…)
    Moderately useful — but there are always exceptional category members, so be aware
  - **Distribution** as a criterion?
    → Very useful and reliable

6. Word categories

- Here are some distributional criteria for the word categories that are most important in morphology

(Based on table 5.3 from *CL,* p 171, with new examples)

Category	**Distributional property**	**Examples**
Noun (N)	occurs with some or all **determiners** (“articles”)	*a sneeze* *the anxiety*
Verb (V)	occurs with some or all **auxiliaries** (“helping Vs”)	*can insist* *may seem*
Adjective (A)	occurs with some or all **degree words**	*very concrete* *too transparent*

6. Word categories

- Some distributional criteria for word categories

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- Try some!
  - What word category is *disappear*?
  - What word category is *love*?

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- Try some!
  - What word category is *disappear*? | V
  - What word category is *love*? | N

6. Word categories

- Some distributional criteria for word categories

Category	**Distributional property**	**Examples**
Verb (V)	occurs with some or all **auxiliaries** ("helping Vs")	*can insist* *may seem*

- Warning: If a verb has an **inflectional morpheme** (such as past tense, present progressive *-ing*, etc.), it will not pass this distributional test — remove inflectional morphemes before applying the test
  - We will discuss inflectional morphology next Wednesday (after the exam)

7. Word-structure puzzle: English

- Try these **flash cards** on Quizlet:
  (also linked from the LING 101 "Online resources" page)

  How many morphemes are in each English word?