

- **Word structure**
- **Word formation**

Background reading:

- Review: *CL* Ch 4, §1

0. Where we are in this course

- The first part of the course (→Exam #1) focused on:
 - linguistics as the scientific study of language
 - phonetics - phonology
- The second part (→Exam #2) focuses on:
 - **morphology** (word structure)
 - **syntax** (sentence structure)
- If phonetics and phonology were not your strong point, you can think of this new unit as a **reset**
 - Review the [Tips for success](#) handout!
 - Note: We'll use phonetics and phonology again later

1. Morphology and natural science

- Morphology from the perspective of science:
 - Our **data** (facts about the world) will include
 - How words can be broken down systematically into meaningful parts
 - How people can create and understand words based on their meaningful parts
 - We will build a **model** of the mental grammar that attempts to account for these data
 - Classification of morphemes
 - Principles of word formation

2. Review: Morphemes and words

Review from last time:

- A morpheme
 - shows a **systematic** ...
 - **cannot be** ...

2. Review: Morphemes and words

Review from last time:

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

2. Review: Morphemes and words

Review from last time:

- A **word** is:

-

-

2. Review: Morphemes and words

Review from last time:

- A **word** is:
 - a **free form** (can stand alone, or at least isn't required to occur together with other elements)
 - **cohesive** — nothing can intervene between its parts while keeping the word's *meaning* intact
- Warning: many languages spell (most) words with spaces between — but this isn't always reliable
 - Example: *roller skate* is one word even though it is spelled with a space

2. Review: Morphemes and words

- How many morphemes are in the word ***rewriter***?

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- How many morphemes are in the word **rewriter**?
 - 3: *re-write-er*
- Can you propose a meaning for each of these morphemes, based on the **systematic sound-meaning correspondence** you find in a set of words that contain it?
 - *re*
 - *write*
 - *er*

3. Roots and affixes

- Every word contains at least one **root** morpheme
 - “constitutes the core of the word and carries the major component of its meaning” (CL, p 125)
- To a root, **affixes (Af)** may be added
 - by definition, affixes are bound morphemes
 - do not* belong to a word category (CL, p 125)

* Some linguists have proposed that an affix itself *belongs* to the word category that it *creates*.

But we'll go with the textbook: just use the label **Af**.

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 - Is it bound or free?
 - Are the other morphemes bound or free?

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- What is the root in *rewriter*? | *write*
 - Is it bound or free? | *free*
 - Are the other morphemes bound or free? | *bound*

3. Roots and affixes

- Consider this example from **Spanish**

ganar 'win-INFINITIVE'; *naturalistic translation* "to win"

gano 'win-1sg' ('win-1st person singular'); "I win"

ganas 'win-2sg'; "you win"

ganamos 'win-1pl' ('win-1st person plural'); "we win"

ganan 'win-3pl' ('win-3rd person plural'); "they win"

- What is the **morpheme** meaning 'win'?
- Is it bound or free?
- Is it a root or an affix?

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- What is the **morpheme** meaning 'win'? | /gan-/
- Is it bound or free? | **bound**
- Is it a root or an affix? | **root!** → not always free

4. Structure inside a word

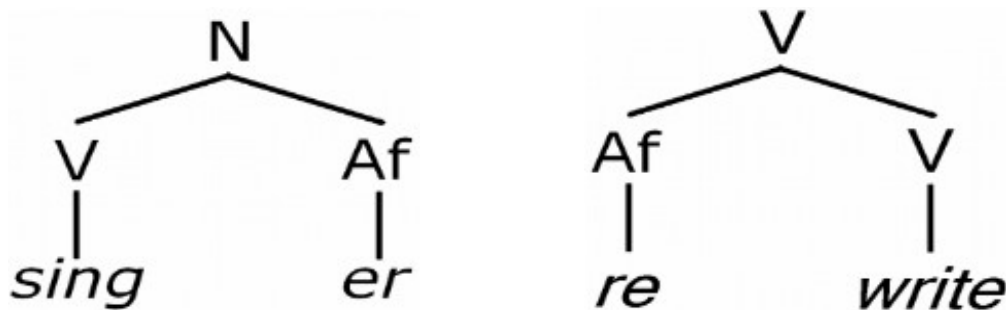
- We can represent the structure of a complex word by showing:
 - what category each affix attaches to
 - what category each affix has created
 - Try these examples: What are the word categories of these **words**, and of their **roots**?
 - *singer*
 - *rewrite*
- From last time: How do we determine the category of a word?

4. Structure inside a word

- We can represent the structure of a complex word by showing:
 - what category each affix attaches to
 - what category each affix has created
- Try these examples: What are the word categories of these **words**, and of their **roots**?
 - singer | *singer: N* *sing: V*
 - rewrite | *rewrite: V* *write: V*
- From last time: How do we determine the category of a word?

4. Structure inside a word

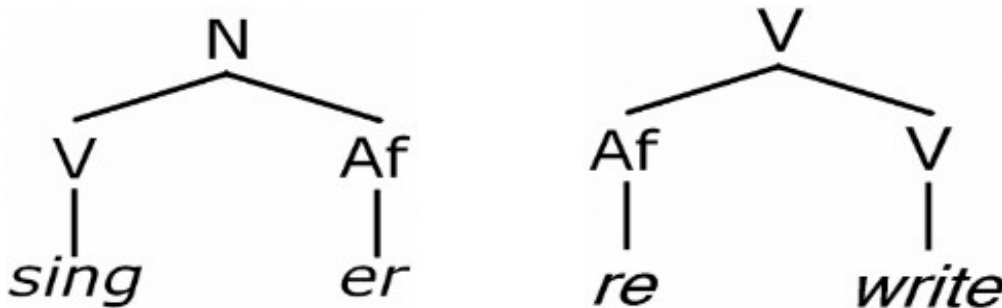
- We can use a **tree diagram** to represent the internal structure of a word
 - Show what category each affix attaches to
 - Show what category it has created



- *-er* attaches to V (*sing*), creates N (*singer*)
- *re-* attaches to V (*write*), creates V (*rewrite*)

4. Structure inside a word

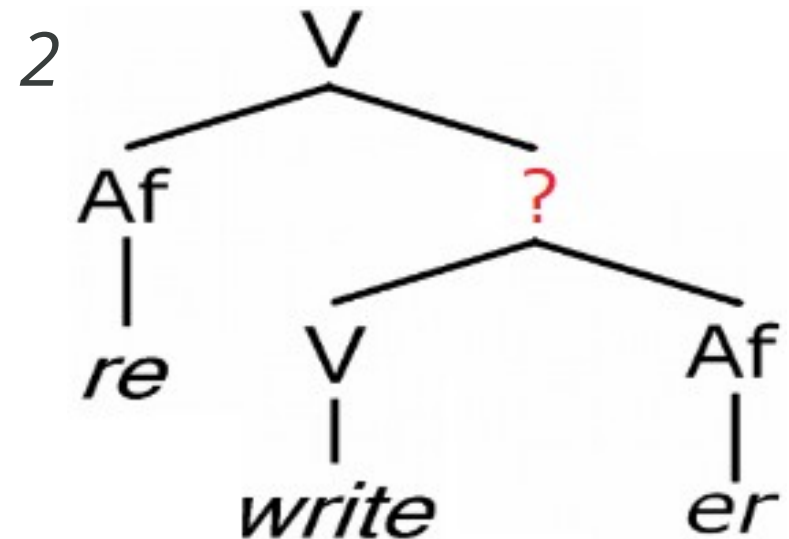
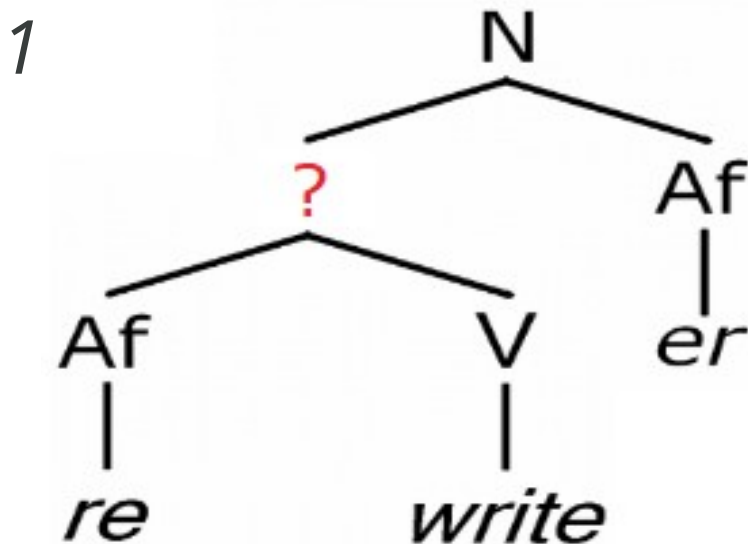
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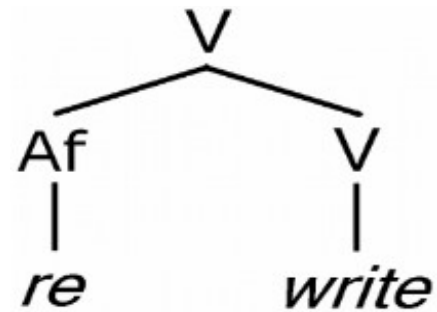
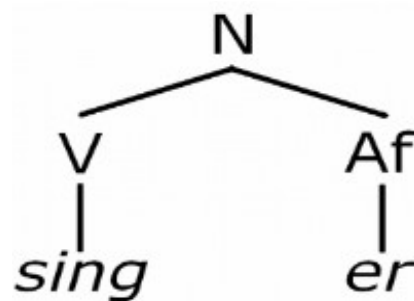
- Try drawing a tree diagram for *rewriter*
 - Hint: Always start with the **root**

4. Structure inside a word

- **Which** tree is the right one?

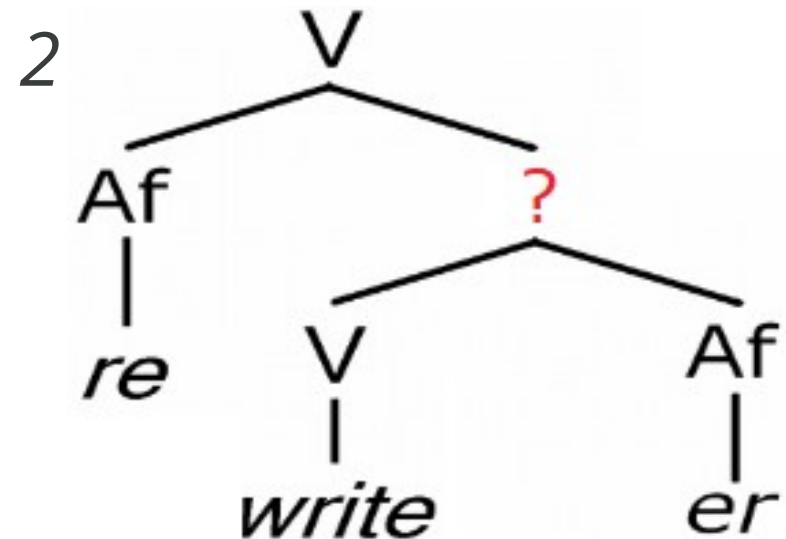
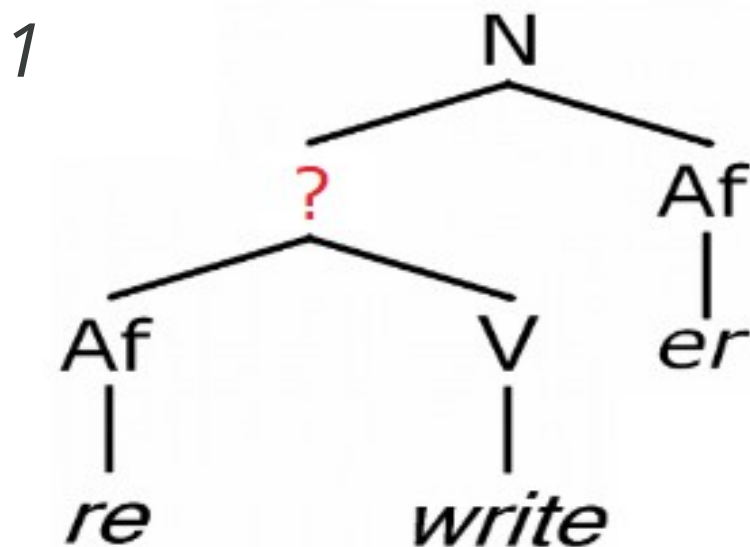


- Compare:



4. Structure inside a word

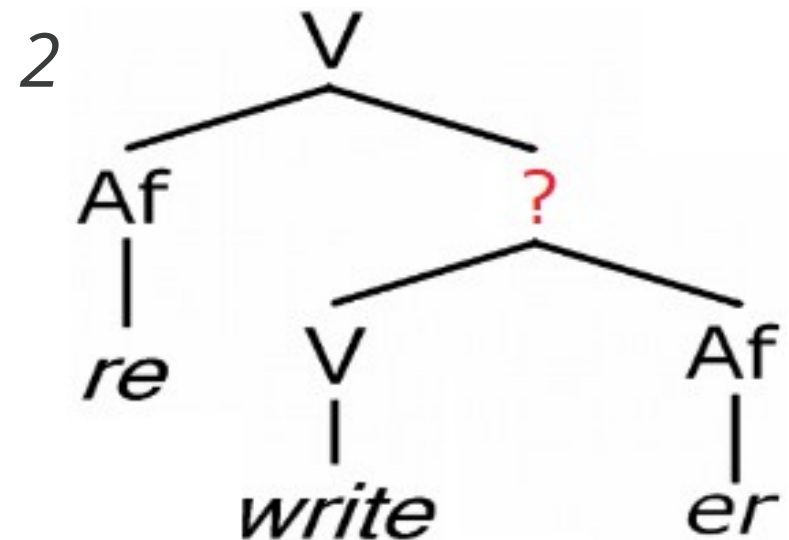
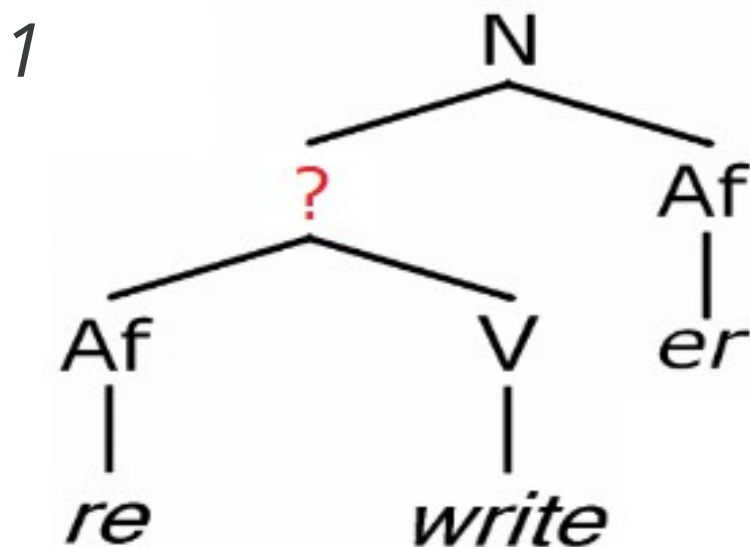
- **Which** tree is the right one?



- What category does *re-* ... Attach to?
Create?
- What category does *-er* ... Attach to?
Create?

4. Structure inside a word

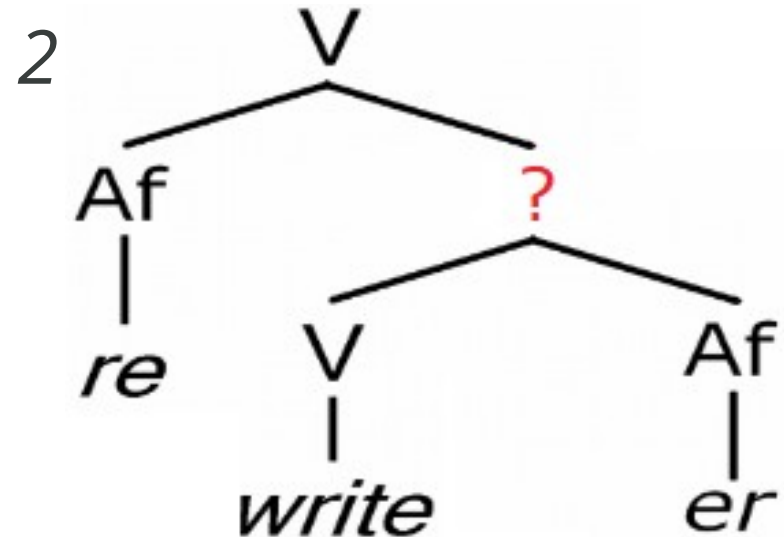
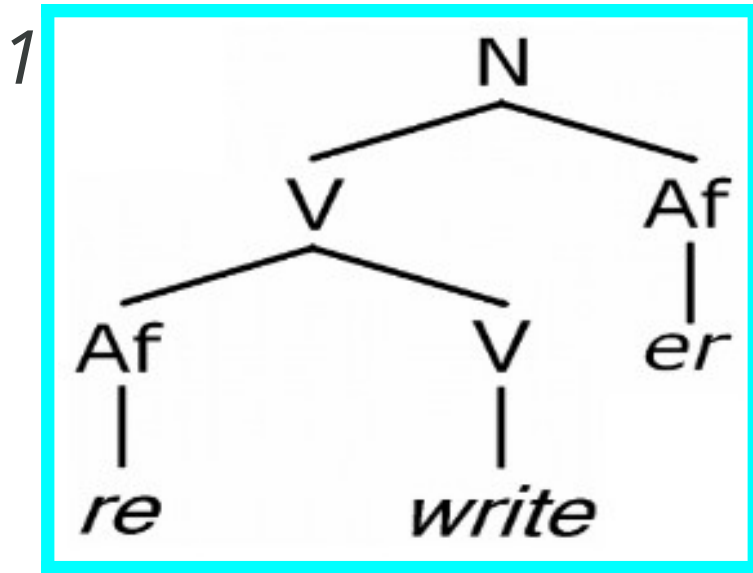
- **Which** tree is the right one?



- What category does *re-* ... Attach to? | V
Create? | V
- What category does *-er* ... Attach to? | V
Create? | N

4. Structure inside a word

- **Which** tree is the right one?



- *re-* ... Attaches to V, creates V
 - *-er* ... Attaches to V, creates N
- If *-er* applies first, it creates a N, and *re-* can't apply
 - Meaning also fits: 'one who [writes again]'

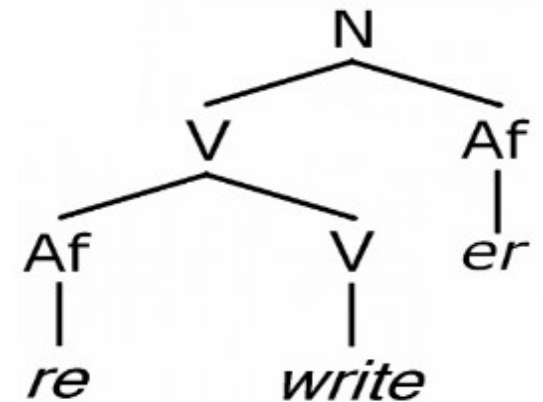
4. Structure inside a word

A few more useful terms to know:

- **base** = “the form to which an affix is added”
(CL, p 126)
 - Is **base** the same thing as **root**?

Try this with *rewriter*

- The **root** of *rewriter* is...
- The **base** of *re-* is...
- The **base** of *-er* is...



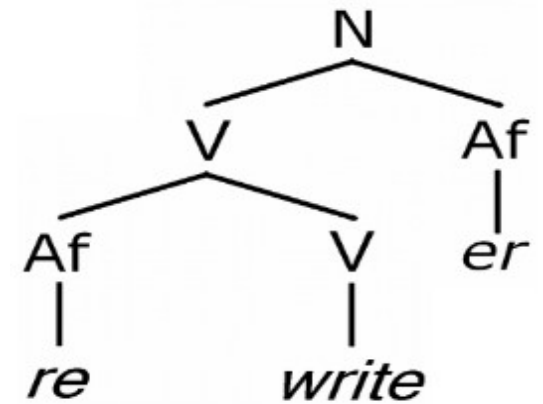
4. Structure inside a word

A few more useful terms to know:

- **base** = “the form to which an affix is added”
(CL, p 126)
 - Is **base** the same thing as **root**? | **No!**

Try this with *rewriter*

- The **root** of *rewriter* is... *write*
- The **base** of *re-* is... *write*
- The **base** of *-er* is... *rewrite*



5. Classifying affixes based on their position

A few more useful terms to know:

- Some types of **affixes**
 - **prefix**
 - **suffix**
 - **infix**

5. Classifying affixes based on their position

A few more useful terms to know:

- Some types of **affixes**
 - **prefix** — attaches to the **left** of its base
 - *re-* in *re-write*
 - **suffix** — attaches to the **right** of its base
 - *-er* in *rewrite-er*
 - **infix** — attaches **inside** its base
 - Not really part of English morphology*; see *CL*
 - *English does have the 'expletive infixation' pattern indicating emphasis: *fantastic* → *fan-freakin'-tastic*

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A few more useful terms to know:

- Some types of **affixes**
 - **prefix** — attaches to the left of its base
 - **suffix** — attaches to the right of its base
 - **infix** — attaches inside its base
- Try it: Classify each affix in *nationalist*
 - *-ist* — suffix
 - *-al* — suffix (not infix! *nation* → *national* → *nationalist*)
 - *-tion?* — not an affix in this word! (*na-* is not root)

6. Morphology in the mental grammar

- A native speaker knows:
 - Things that are arbitrary/unpredictable, and must be **memorized**
 - Things that are creative/predictable, and must be **systematically generated**
- Which type would each of these be?
 - the **meaning of a morpheme** like *sing* or *-er*
 - the fact that the morpheme *-er* can **combine** with (almost?) any verb to **make complex words** such as *singer*, *eater*

6. Morphology in the mental grammar

Linguists have proposed the following two components to the mental grammar:

- A **mental lexicon** — a list of **arbitrary/unpredictable** information
 - The sound and meaning of each morpheme, including its word category
 - A morpheme's lexical entry also includes any exceptional or idiosyncratic information
- A system of **rules and generalizations**
 - These **generate predictable patterns**

6. Morphology in the mental grammar

- A system of **rules and generalizations**
 - These **generate predictable patterns**
 - How the allophones of a phoneme are divided among environments
 - **How a particular morpheme forms new words**

6. Morphology in the mental grammar

- One school of thought about affixes:

Their lexical entry includes a **word-formation rule** to account for predictable information

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Example:

Word-formation rule

er: $V + /ɹ/ \rightarrow N$

'someone/something that does V'

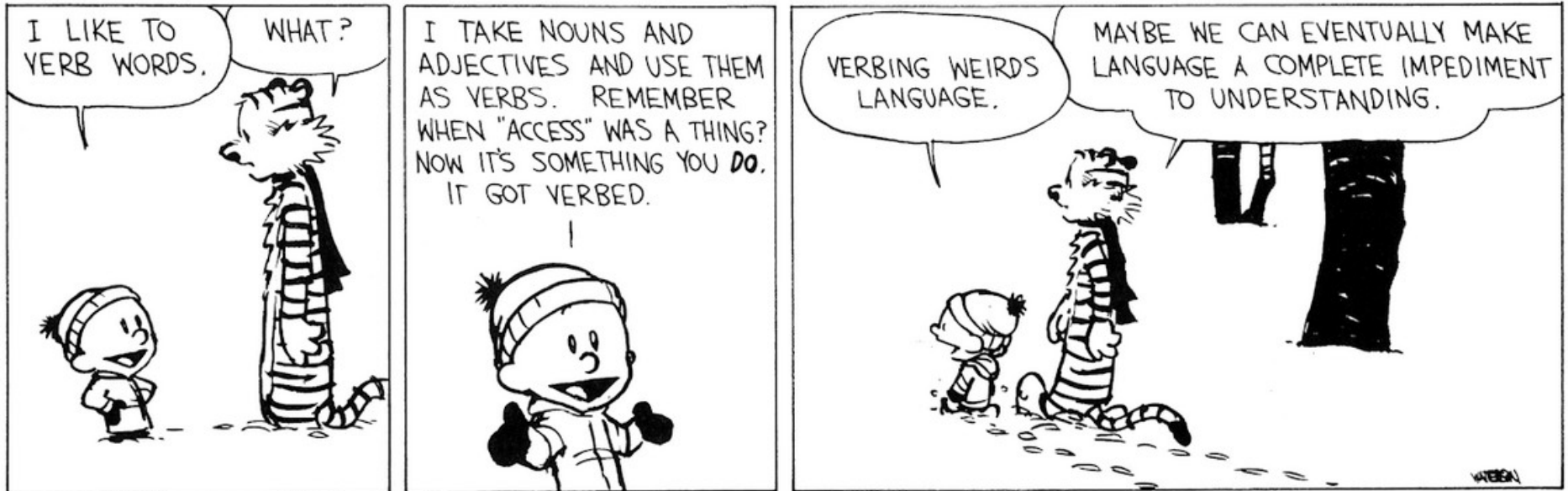
- States what category the affix attaches to
- States what category the affix creates
- Indicates the meaning of the affix

7. To sum up

- Words and morphemes
 - **Words** are **free**
 - **Morphemes** can be **free or bound**
 - **Words** contain **one or more morphemes**
- Words have internal **structure**
 - Must have at least one **root**
 - May have one or more **affixes** — combine one by one, each producing a new node in the tree
- The mental grammar of a language includes **rules** for **combining** morphemes to make words
 - Affixes: What category does it attach to? | Create?

8. Something extra for fun

- For fun: *Verbing weirds language*



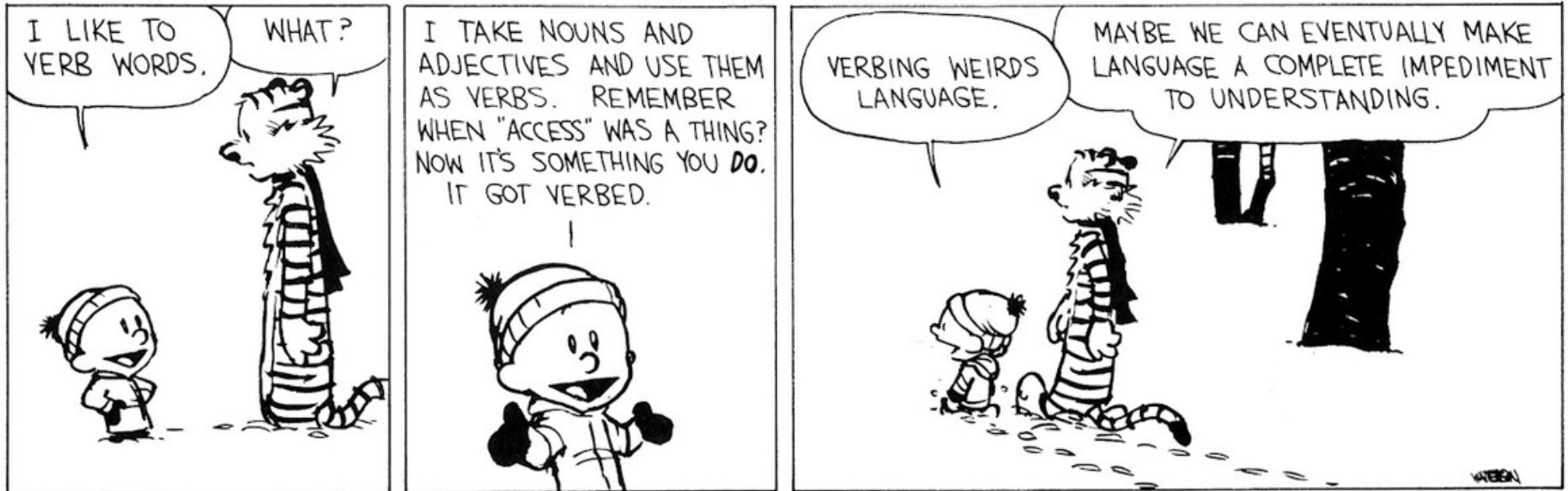
Calvin & Hobbes, January 25, 1993

Advanced research question:

- How does the mental grammar turn a noun or adjective into a verb like this in English?

8. Something extra for fun

- For fun: *Verbing weirds language*



Calvin & Hobbes, January 25, 1993

- Proposal: A **zero morpheme** (has no sound) whose meaning (function) is to turn N or A to V
 $\emptyset: \{ N, A \} + \emptyset \rightarrow V, \text{'do/be/make/become } \{ N, A \}$