

# Where am I?

- **HUL242: Fundamentals of Language Sciences**
- **Syntax (Lecture-2)**
- Thursday, March 20

# Today

- Parts of speech: Traditional vs. distributional criteria
- Subcategories of nouns
- Subcategories of verbs
- From parts of speech to phrases

# **Parts of speech: Traditional vs. distributional criteria**

# From the school : Parts of Speech

1. Noun
2. Pronoun
3. Adjective
4. Adverb
5. Verb
6. Preposition
7. Conjunction
8. Interjection



# Parts of speech: Traditional definitions

- Traditional definitions of parts of speech (one you learned in school) are ***semantic*** (i.e., based on meaning):
- Noun :
  - A noun is a “person, place, or thing”
- Verb :
  - A verb is “an action, state, or state of being”

# The problem with traditional definitions

- They're not very good for words you know:

*Destruction* : Noun

- ‘destruction of the city’
- seems to describe an action

*Assassination* : Noun

- ‘The assassination of the president shocked the public’
- seems to describe an action

# The problem with traditional definitions

*Think* : Verb

- ‘I think you are smart.’
- does not seem to describe an action

*Believe* : Verb

- ‘I believe you are smart .’
- does not seem to describe an action

# The problem with traditional definitions

1. Sincerity is an important quality.
- Sincerity is an attribute, a general property of adjectives.
  - However, it is used as a noun in (1)

# The problem with traditional definitions

- Many words change their parts of speech depending on where they appear in a sentence.

Pen: noun or verb?

1. I have a **Pen**. (noun)
2. She **penned** an application to the principal. (verb)

Work: noun or verb?

3. She **worked**. (verb)
4. She did the **work**. (noun)

# The problem with traditional definitions

Data from Nootka, a Wakashan language spoken in the Pacific NW:

1. Mamu:k-ma      qu:?'as-?i  
working-PRESENT man-DEFINITE  
"The man is working."
2. Qu:?'as-ma      mamu:k-?i  
man-PRESENT working-DEFINITE  
"The working one is a man."

- What's the noun in (1)? What's the verb?
  - noun **qu:?'as**    verb **Mamu:k**
- What's the noun in (2)? What's the verb?
  - noun **Mamu:k**    verb **qu:?'as**

# The problem with traditional definitions

- Some words do not seem to have any meaning.
  1. *John heard **that** it was snowing?*
- It's not clear what (if anything) *that* means!
- So, hard to use *that*'s meaning to talk about its part of speech.

# The problem with traditional definitions

- Useless for words you don't know!

Twas brillig, and the **slithy toves**  
Did gyre and gimble in the **wabe**;  
All mimsy were the borogoves,  
And the mome raths outgrabe.

(a nonsense poem written by Lewis Carroll, Jabberwocky (1871))

- What are *toves* and *wabe*?
  - How do you know *toves* and *wabe* are nouns?
- What is *slithy*?
  - How do we know *slithy* is an adjective?

# The problem with traditional definitions

- The yikish dripner
- into the nindin
- with the pidibs
- The underlined word would be unknown to you, but you know their parts of speech (and so you recognize this as grammatical English).

yikish → Adjective

nindin → Noun

dripner → Noun

pidibs → Noun

- How do you do that?

# Parts of speech: Distributional criteria

- You know that what *actually* matters for a word's part of speech is that word's **distribution** in a sentence.
- Two ways to look at a word's distribution:
  - **Morphological:** what affixes a word has or could combine with.
  - **Syntactic:** where a word can go in a sentence, what other words appear near the word.

# Morphological Distribution

- What affixes a word has or could combine with.

Distribution: noun (a nominal suffix -ion)

Distributional: adjective (adjectival suffix -al)

Regularize: verb (verbal suffix -ize)

Quickly: adverb (adverbial suffix -ly)

Plural suffix -s : only to nouns in English

Superlative suffix -est : only to adjectives (big->biggest, \*dog->dogest)

# Syntactic Distribution

- Where in a sentence a word can go, what other words appear near the word
- Nouns appear after determiners
  - into the **nindin**
  - with the **pidibs**
- Adjectives appear between a determiner and a noun
  - The **yikish** worker

# Distributional Criteria: Main categories

Noun (N):

- Can have suffixes like –ment, -ness, -tion, -ation ....
- Can carry plural marker –s
- Occurs after a determiner: the/a basement

Verb (V):

- Can have suffixes like –ize , -ate .....
- Inflected for tense, aspect and agreement.....
- Can follow an auxiliary (*can*), modal (*might*), or negation

(See Carnie Ch 2 for details)

# Distributional Criteria: Main categories

Adjectives (Adj):

- Can have suffixes like -able, -ful . . .
- Can be used in degrees of comparison (-er, -est or more.., most..)
- Can occur between a determiner and a noun, . . .

Adverb (Adv):

- Can have suffixes like –ly, -wise (clockwise), -ward(e) (downwards)...
- Modifies a verb, adjectives, or adverb
- Cannot occur between a determiner and a noun, . . .

**(See Carnie Ch 2 for details)**

# A note on Adjectives and adverbs

- Both take the suffix –ly (friendly vs. quickly). They have the same function—attribute the properties to the item they modify but they have different syntactic distribution.

Adj	Adv
Adjectives modify nouns and generally occur inside the noun phrase:  1. A <u>good</u> book 2. A <u>friendly</u> cub	Adverbs modify verbs and can appear elsewhere in the sentence.  1. He runs <u>quickly</u> . 2. <u>Yesterday</u> , he run. 3. Bill is <u>always</u> late
Can appear after the verb ‘to be’:  That person is <u>quick</u> .	Cannot appear after the verb ‘to be’  *That person is <u>quickly/yesterday/always</u> .

- Complementary distribution:** occurrences of adjectives and adverbs are entirely predictable.

# Open class and Closed class

- The categories we saw so far i.e., Nouns, Verbs, Adjectives, Adverbs are all **open**
  - That is, they allow new coinages (e.g., *Facebook in 2004, ipad in 2010*)
- Other categories are **closed**.
  - That is, very hard , if not impossible, to expand them.
- Closed categories are also called ***functional*** categories.
  - They encode grammatical information and are the “glue” that holds a sentence together.

# Some closed categories

Determiners:

- Articles: *a/an, the,*
- Quantifiers: *all, every, some, many, most, three, two...*
- Demonstrative: *this, that, those, these ..*
- possessive pronoun: *my, his, her ..*

Prepositions:

- *over, under, in, near, on, for...*

Complementizers:

- *that, whether, if, for, ...*

Conjunctions:

- *and, or, neither-nor, either-or, ...*

Tense:

- *has, have, had, is, are, am, was, were...*

Negation

- *not/n't*

# A note on numerals: determiner or adjectives?

- Distribution of numerals in English
  1. Two/all books
  2. One/a big book (\*big book)
  3. These two/good books
- What category are numerals? Are they determiner or adjective?
- In this course, we will follow the idea that numerals could be determiners (1 & 2) or adjectives (3)

# **Subcategories and features**

# Subcategories of nouns: Count and Mass

Count nouns	Mass nouns
-> can be counted	-> cannot be counted (in the same way).
-> represent individual countable items. John ate <u>two apples</u> .	-> cannot be represented as an individual item.  *John ate two sugar. John ate sugar. John ate two spoons of sugar.
-> Can take the quantifier 'many' Many apples *Much apples	-> Can take the quantifier 'much' Much sugar *Many sugar
Requires a determiner to appear in the argument position.  *I ate apple. I ate an/the/my apple.	Don't require a determiner.  I ate sugar. I ate the/my sugar.

- We distinguish count and mass nouns using the feature [ $\pm count$ ]

# Subcategories of nouns: Singular and Plural

- English nouns could be singular or plural. The distinction is marked morphologically.

an apple vs. two apples

- Like countable nouns, singular nouns require a determiner to appear in an argument position.
  1. \*Apple was delicious.
  2. The apple was delicious.
  3. Apples were delicious.
- We mark this distinction with the feature [ $\pm PLURAL$ ]

# Subcategories of nouns: pronouns and anaphors

- **Lexical nouns** have their own meaning (boy, girl, book ....).  
(1) John admires Mary.
- **Anaphors** must get their meaning from a noun of the same sentence.  
(2) John admires **himself**. (Himself = John)
- **Pronouns** never get their meaning from a noun of the same sentence.  
(3) John admires **him**. (him = not 'John', some other person)
- Feature-based analysis
  - Anaphors = [+ANAPHOR, -PRONOUN]
  - Pronouns = [-ANAPHOR, +PRONOUN]
  - Lexical nouns = [-ANAPHOR, -PRONOUN]

# Subcategories of verbs

# Subcategories of verbs: Finiteness

- Finite forms of the verb reflect for tense.
  1. He **left.** (Past)
  2. He **leaves.** (Present)
  3. He **will leave.** (Future)
- Non-finite forms of the verb do not reflect for tense.
  3. I want **to leave.**
  5. He wants **to leave.**
  4. I wanted **to leave.**
- We can mark this distinction with the feature  
[± TENSE]

# Subcategories of verbs: Argument structure

- Obligatory phrases (a word or a group of words) are called an **argument** of a verb.
- Optional phrases are called **adjuncts**. They express additional meaning.
  1. I walked yesterday in the evening.

Argument and adjuncts in (1)?

- 1'. I walked.
- 1''. \*walked.

- ‘I’ is obligatory in (1). Thus, it is an argument.
- ‘Yesterday’ and ‘in the evening’ are optional (1). Thus, they are adjuncts.

# Subcategories of verbs: Argument structure

- **Intransitive** verbs: need one argument (*subject*) such as ‘arrive’
  - Bill arrived.
- **Transitive** verbs: need two arguments (*subject* and one *object*) such as ‘love’
  - Mary loves Bill.
- **Ditransitive** verbs: need three arguments (*subject*, and two *objects*) such as ‘put’
  - I put the book on the table.

# Subcategories of verbs: Argument structure

1. John saw Mary yesterday in the morning.
- Identify arguments and adjuncts in (1).
- Arguments:
  - John
  - Mary
- Adjuncts:
  - Yesterday
  - In the evening

# Subcategories of T

# Subcategories of T

- Auxiliaries
  - Have/has/had, am/is/are/was/were, do/does/did
- Modal
  - will, would, can, could, shall, should, may, might, must
- Non-finite tense marker
  - To
- Feature-based representation
  - Auxiliaries: T [-modal, -nonfinite]
  - Modal: T [+modal, -nonfinite]
  - to : T[-modal, +nonfinite]

**From**  
**Lexical categories (words)**  
**to**  
**Syntactic categories (phrases)**

# What is in a sentence?

1. Cats meow.
  - A noun and a verb?
  - Subject and a predicate?
  - But there is so much more to say about the noun!
    2. The cats meow.
    3. The cats on the mat meow.
  - The subject of a sentence can be composed of multiple words.
  - So, subjects are not just nouns but **noun phrases**.
  - **Phrase: a group of words that functions as a unit in syntax.**

# What is in a sentence?

- **Phrase: a group of words that functions as a unite in syntax.**
  1. Cats meow.
  2. The cats meow.
  3. The cats on the mat meow.
- **Fragment answer:** Who meows?
  - Cats
  - The cats
  - The cats on the mat
- **Replacement:** Replacing by a pronoun
  - They meow.

# What is in a sentence?

- In the same way, the verb part of a sentence can be composed of multiple words.
  1. Cats meow.
  2. The cat likes milk.
  3. The cat likes milk on his birthday.
- A group of words created around a verb is called a ‘verb phrase’.
- **Phrases , not categories/words, are used to make a sentence.**
- So, sentences are composed of a **noun phrase (NP)** and a **verb phrase (VP)**, not only N and V.

# Prepositional phrases (PP)

- Some sentences we encountered with PP

1. The cats on the mat meow.
2. The cat likes milk on his birthday.
3. The boy saw the man with the telescope.
4. Stop for pedestrians in a crosswalk.

## Next class

- Some more phrase types.
- Phrase structure rules.
- Seeing how these rules correspond to tree structures.
- Reading - start reading **Carnie, Ch. 3** “Constituency, Trees and Rules (**till section 1**)”, available under the week ‘17 March – 23 March’