2. Parts of Speech

Determining Part of Speech and problems with Traditional Definitions, the Major Parts of Speech- Nouns, Verbs, Adjectives, Adverbs. Open vs. Closed; Lexical vs. Functional words, Subcategories and features of Nouns and verbs

ENG467: Syntax and Structures of Language

Introduction

➢ Let's first look at the different kinds of words

➢ the word's part of speech (also known as syntactic category or word class).

➢ The most common parts of speech are **nouns, verbs, adjectives, adverbs, and prepositions** (also see pronouns, prepositions, conjunctions, articles/determiners)

➢ Parts of speech tell us how a word is going to function in the sentence.

Consider the sentences in (1). Notice that we can substitute various words that are of the type

noun for the second word in the sentence:
1) a) The *woman* loved peanut butter cookies.
   b) The *puppy* loved peanut butter cookies.
   c) The *queen* loved peanut butter cookies.

However, we cannot substitute words that aren't nouns:
2) a) *The *green* loved peanut butter cookies.
   b) *The *in* loved peanut butter cookies.
   c) *The *sing* loved peanut butter cookies.

The same holds true for larger groups of words (the square brackets [...] mark off the relevant groups of words).
3) a) [Moises] went to the store.
   b) [The man] went to the store.
   c) *[Quickly walks] went to the store.

Determining Part of Speech

1.2 The Problem of Traditional Definitions

➢ If you were taught any grammar in school, you may have been told that a noun is a "person, place, or thing", or that a verb is "an action, state, or state of being". Alas, this is a very over-simplistic way to characterize various parts of speech.

➢ The first thing to notice about definitions like this is that they are based on semantic criteria.

4) The *destruction* of the city bothered the Mongols.

➢ The meaning of destruction is not a "person, place, or thing". It is an action. By semantic criteria, this word should be a verb. But in fact, native speakers unanimously identify it as a noun.

5) a) *Sincerity* is an important quality.

   b) the *assassination* of the president.

▪ *Sincerity* is an attribute, a property normally associated with adjectives.

▪ Yet in (5a), sincerity is a noun.

▪ Similarly in (5b) *assassination*, an action, is functioning as a noun.

1.2 Distributional Criteria

➢ The criteria we use for determining part of speech is NOT based on the meanings of the word, but on its distribution.

➢ We will use two kinds of distributional tests for determining part of speech: **morphological distribution** and **syntactic distribution**.

1.2.1 Morphological distribution

➢ First we look at morphological distribution; this refers to the kinds of affixes (prefixes and suffixes) and other morphology that appear on a word. Let's consider two different types of affixes.

➢ **First**, we have affixes that make words out of other words. We call these affixes **derivational morphemes**.

➢ These suffixes usually result in a different part of speech from the word they attach to.

➢ For example, if we take the word distribute we can add the derivational suffix *-(t)ion* and we get the noun distribution. The *-(t)ion* affix thus creates **nouns**. Any word ending in *-(t)ion* is a noun. This is an example of a **morphological distribution**.

➢ A similar example is found with the affix *-al*, which creates **adjectives**. If we take distribution, and add *-al* to it, we get the adjective distributional. The *-al* ending is a test for being an adjective.

➢ **The second is call inflectional morphemes**

➢ **D**erivational affixes make a word a particular category; by contrast **inflectional morphemes** don't make a word into a particular category, but **instead only attach to certain categories**.

➢ Take for example the superlative suffix **-est**. This affix only attaches to words that are already adjectives: big, biggest (cf. dog, *doggest). Because they are sensitive to what category they attach to, inflectional suffixes can also serve as a test for determining part of speech category.

1.2.2 Syntactic distribution

The other kind of test we use for determining part of speech uses **syntactic distribution**. Syntactic distribution refers to what other words appear near the word. For example, nouns typically appear after determiners (articles) such as the, although they need not do so to be nouns. We can thus take appearance after the to be a test for noun hood.

The Major Parts of Speech- **Nouns, Verbs, Adjectives, Adverbs**.

➢ Having determined that we are going to use distributional criteria for determining the part of speech of a word.

➢ One thing that you'll notice is that these are specific to English. Every language will have its own distributional criteria.

➢ Major parts of speech are   noun (N),   verb (V),   adjective (Adj),   and adverb (Adv).

2.1 Nouns

Derivational Suffixes: In English, nouns often end in derivational endings such as *-ment (basement), -ness (friendliness), -ity (sincerity), -ty (certainty), -(t)ion (devotion), -ation (expectation), -ist (specialist), -ant (attendant), -ery (shrubbery), -ee (employee), -ship (hardship), -aire (billionaire), -acy (advocacy), -let (piglet), -ling (underling), -hood (neighborhood), -ism (socialism), -ing (fencing).*

Inflectional Suffixes: Nouns in English don't show much inflection, but when pluralized
can take suffixes such as -s *(cats), -es (glasses), -en (oxen), -ren (children),*

Syntactic Distribution: Nouns often appear after determiners such as *the, those, these*

(e.g., *these **peanuts**),* and can appear after adjectives *(the big **peanut**).*

Nouns can also follow prepositions *(in **school**).*

All of these conditions can happen together *(in the big gymnasium).*

Nouns can appear as the subject of the sentence (***Mary** plucked the mango*)

Morphology: Nouns have a possessive form. Countable nouns have plural forms.

(2)   a.   dog   dogs   dog's

         b.   sheep   sheep   sheep's

Distribution: Nouns can occur after determiners, after adjectives, and after prepositions.

(3)   The kid pretended he was a silly boy in class.

Morphology: Nouns have a possessive form. Countable nouns have plural forms.

(2)   a.   dog   dogs _PL_   dog's _Poss_   dogs' _PL + Poss._

       b.   sheep _SG_   sheep∅ _PL_   sheep's _Poss_

Distribution: Nouns can occur after determiners, after adjectives, and after prepositions.

(3)   The kid pretended he was a silly boy in class.
                                P

2.2 Verbs

➢ **Derivational Suffixes**: Verbs often end in derivational endings such as –ate (dissipate), and -ize/-ise (regularize).

➢ **Inflectional Suffixes**: In the past tense, verbs usually take an -ed or -t ending. In the present tense, third person singular (he, she, it), they usually take the -s ending. Verbs can also take an -ing ending in some aspectual constructions, (she was walking) and most take either an -en or an -ed suffix when they are passivized (more on passivization in later chapters): the ice cream was eaten.

➢ **Syntactic Distribution**: Verbs can follow auxiliaries and modals such as *will, have, having, had, has, am, be, been, being, is, are, were, was, would, can, could, shall, should, may, must*, and the special non-finite marker *to*. Verbs follow subjects, and can follow adverbs such as *often* and *frequently*. Verbs can be negated with *not*.

Morphology: Verbs have past forms, third person singular forms, perfect forms, and progressive forms.

(4)   drink   drank   drinks   drunk   drinking

Distribution: Verbs follow auxiliaries and modals, as well as subjects.

(5)   a.   Some person left me outside.

        b.   I was telling you that I was eating.

        c.   I might retire soon.

Morphology: Verbs have past forms, third person singular forms, perfect forms, and progressive forms.

(4) drink   drank   drinks   drunk   drinking

                  Past   *3PS*   *Participle*   *Progressive*

Distribution: Verbs follow auxiliaries and modals, as well as subjects.

                      is leaving

(5)   a. [Some person] eft me outside.
                         V

        b. [I was telling you that I was eating.
                   V   V

        c. [I might retire soon.
                   V

2.3 Adjectives

Derivational Suffixes: Adjectives often end in derivational endings such as -ing (the dancing cat), -ive (indicative), -able (readable), -al (traditional), -ate (intimate), -ish (childish), -some (tiresome), -(i)an (reptilian), -ful (wishful), -less (selfless), -ly (friendly).

Inflectional Suffixes: Adjectives can be inflected into a comparative form using -er (alternately they follow the word more). They can also be inflected into their superlative form using -est (alternately they follow the word most).

Syntactic Distribution: Adjectives can appear between determiners such as *the, a, these,* etc. and nouns (*the* big *peanut*). They also can follow the auxiliary *am/is/are/was/were/be/been/being* (warning: this distribution overlaps with verbs). Frequently, adjectives can be modified by the adverb *very.*

Morphology: Comparative form (more Adj / Adj-er) and superlative form (*most* Adj / Adj-*est*).

(6)				
	a.	slight	slighter	slightest
	b.	fun	more fun	most fun
	c.	good	better	best

Distribution: Appears before a noun or after a linking verb (be, seems, feels, ...).

(7)   a.   John feels better after a drink.

          b.   The new kid on the block is into rap music.

Morphology: Comparative form (more Adj / Adj-er) and superlative form (*most* Adj / Adj-est).

(6) a.   slight   slighter   slightest

b.   fun   more fun   most fun

c.   good   better   best

Distribution: Appears before a noun or after a linking verb (be, seems, feels, ...).

(7) a. John feels better after a drink.

b. The new kid on the block is into rap music

2.4 Adverbs

Derivational Suffixes: Many adverbs end in *-ly*: *quickly*, *frequently,* etc.

Inflectional Suffixes: Adverbs generally don't take any inflectional suffixes. However, on rare occasions they can be used comparatively and follow the word *more*: *She went <u>more quickly</u> than he did.* Adverbs typically don't take the prefix *un-* unless the adjective they are derived from does first (e.g., *unhelpfully* from *unhelpful*, but **unquickly, *unquick*).

Syntactic Distribution: The syntactic distribution of adverbs is most easily described by stating where they can't appear. Adverbs can't appear between a determiner and a noun (**the quickly fox*) or after the verb *is* and its variants. They can really appear pretty much anywhere else in the sentence, although typically they appear at either the beginning or the end of the clause/sentence. Frequently, like adjectives, they can be modified by the adverb very.

Morphology: Many end in "-ly", others can take "more". Some have comparative forms.
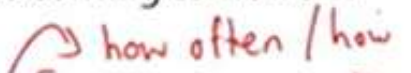
(7) a. slightly

b. happily

c. soon (sooner)

Distribution: Preceding or following a sentence. Before the verb.

(8) a. Unfortunately, I will not be coming tomorrow.

b. I never knew that he always brushed his teeth.

Morphology: Many end in "-ly", others can take "more". Some have comparative forms.

(7)   a.   slightly

    b.   happily

    c.   soon   (sooner)

• Modify Verb   quickly

• Modify sentence   unfortunately

Distribution: Preceding or following ~~a sentence.~~ Before the verb.

(8)   a.   Unfortunately, I will not be coming tomorrow.

                        how often / how

    b.   I never knew that he always brushed his teeth.

                                      ?

Prepositions and Determiners

Preposition Distribution**:** They occur before a noun.

It was a book written by John.

I want to go into the party.

Determiners distribution: They occur at the beginning of a noun phrase.

John remembers that this person knew every detail.

One person told me which doctor your brother liked.

Prepositions

Distribution: They occur before a noun.

(9)   a.   It was a book written by dogs.

        b.   I want to go into the pantry.

with   association
into
by agency
near
above

Determiners

Distribution: They occur at the beginning of a noun phrase.

(10)   a.   A child remembered that this person knew every detail.

        b.   One person told me which doctor your brother liked.

a
the
this ___
that ___

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Conjunctions & Complementizers

Conjunctions distribution**:** They connect two of the same type of phrase..

[I was sleepy] but [I still tried my best].

I want neither [cats] nor [dogs].

Complementizer distribution: They occur at the beginning of a clause, allowing a clause

to be used as an argument.

I know [him].

I know [that he is watching me].

I know [whether he is watching me (or not)]

Conjunctions

Distribution: They connect two of the same type of phrase.

and
or
but
although ..

(11)   a.   [I was sleepy] but [I still tried my best].

            b.   I want neither [cats] nor [dogs].

Complementizers

Distribution: They occur at the beginning of a clause, allowing a clause to be used as an argument.

that
whethe
if

(12)   a.   I know [him]

            b.   I know [that he is watching me]

            c.   I know [whether he is watching me (or not)]

Auxiliaries & Modals

Auxiliaries distribution**:** They occur in the following order.

Perfect (have) > Progressive (be) > Passive (be) > verb

I have been sleeping.

I have slept.

I was awoken by John.

Modal distribution: They occur before any auxiliaries and the verb.

I could write a book.

I should be resting.

I might have been too mean.

Auxiliaries

Distribution: They occur in the following order. Perfect (have) > Progressive (be) > Passive (be) > Verb

(13)   a.   I have been sleeping. v
        b.   I have slept.
        c.   I was awoken by Fred.

        Pass.

Modals

Distribution: They occur before any auxiliaries and the verb.

(14)   a.   I could write a book.
        b.   I should be resting.
        c.   I might have been too mean.

can — could
may — might
shall — should
will — would

must

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Word Class

Words are fundamental units in every sentence, so we will begin by looking at these.
Consider the words in the following sentence:
      my brother drives a big car

We can tell almost instinctively that *brother* and *car* are the same type of word (Noun),

and also that *brother* and *drives* are different types of words (Different word category).

By this we mean that *brother* and *car* belong to the same word class (Noun).

Similarly, when we recognise that *brother* and *drives* are different types, we mean that they belong to different word classes.

Definition of Word classes

➢ The words in a language are organized into different Categories.

➢ In traditional terms, they are called **parts of speech** and

➢ In modern terms, **word classes**.

➢ **Word class** is a group of words which are similiar in function.

➢ Words are grouped into word classes according to

• *how they combine with others words*,

• *how they change their form*.

Open word vs. Closed word Parts of Speech

Some parts of speech allow you to add affixes or new words,

While some parts of speech does not allow adding of affixes or new words.

Based on this, parts of speech can be classified into two:

Open Class vs. Closed Class Parts of Speech

Open-class word

➢ Also called **lexical** or **content words** or **major word class**, these words are flexible and allow

adding new words as the need arises. They include **nouns**, **verbs**, **adjectives**, and **adverbs**. For example,

new nouns are created every day.

Egs: dog, dogs;   black+box = blackbox
      play, player, plays, playing
      tall, taller, tallest

➢ Open-class words comprise a large portion of any language.

Unlike closed-class words, which are finite, the possibility of creating and adding new words to an open

word-class is practically infinite.

➢ **Open class words** are further divided into two: **simple** and **complex words**.

A simple word only has one morpheme. For example, *swim, green, and house* only have one morpheme.

A complex word has more than one morpheme. Some examples include *swimming, greenest, and houses*.

Closed-class word

➢ **Closed word class** or **minor word classes** include *pronouns, determiners (article, demonstratives, etc.), prepositions, conjunctions, interjections.*

Closed Class Words	Examples
Pronoun	you, me, she, them, some, it, us
Determiner	the, a, an, this, that, some, any, all
Preposition	in, of, on, at, to, under, from
Conjunction	and, but, or, if...then, although
Interjection	oh, ah, ugh, hey

Difference between Open class word and Closed class word

➢ Open classes have a very large number of members. Every language has a large number of nouns, verbs, adjectives and adverbs. The Closed classes, on the other hand, are highly restricted in their membership.

➢ The number of members of Open classes in a language in always increasing. New words are formed to suit the ever increasing needs of the community and new words are also borrowed from other language communities. On the other hand, the number of words in Closed classes remains more or less fixed.

Lexical vs. Functional

➢ The **Open Word class** and **Closed Word class** distinction is similar to (but not identical to) another useful distinction in parts of speech.

➢ This is the distinction between **Lexical** and **Functional** parts of speech.

➢ **Lexical words**

➢ Lexical words provide the "content" of the sentence.

➢ They carry a concrete meaning.

➢ It means they have clear meanings that you could describe to someone.

   Nouns, verbs, adjectives, and adverbs are all lexical parts of speech.

   And they are all open classes of words, that is to say, affixes can be added to them.

➢ Lexical words are crucial to understand the meaning of a text or piece of information.

   Even if you leave out all the other words and keep just the lexical words, the meaning will be understandable.

➢ This is often used in headlines or telegrams. Here's an example of a headline:

   Missing Link Found in Australia

➢ As you can see the above sentence, most of the function words have been removed and only the lexical ones have been maintained. Still, the meaning is clear..

Functional words

➢ **Functional** or **grammatical** categories include *determiners, prepositions, complementizers, conjunctions, negation, auxiliaries, and modals, affixes.*

➢ They do not carry a meaning themselves.

➢ They bind lexical words and create relationships between them in a sentence. They also help you interpret lexical words in a text or sentence.

➢ They provide the *grammatical information in a sentence*.

▪ They are words that exist to explain or create grammatical or structural relationships into which the content words may fit in the sentence.

Difference between Lexical and Functional categories

➤ All words in the dictionary or those used by native speakers of English are lexical words or morphemes. **But** words such as *pronouns, prepositions, conjunctions, and determiners* (a, an, the, some, many. any, etc.) are always grammatical words or morphemes.

➤ Lexical words are huge in number and get constantly added over time, whereas the number of grammatical words or morphemes remains constant because they are functional words.

• For example, words like 'ipad', 'iphone', 'missile, etc. weren't in use many decades ago.

• How many new grammatical words have been added in English? None. This is the difference. Also, all inflections (-al, -ly, -ic, -er, -en, etc.) are grammatical morphemes.

feature	lexical words	function words
number	There's an **unlimited** number of lexical words, because they belong to the open classes.	There's a limited and relatively small number of function words, because they belong to the closed classes.
length	Lexical words may be of **any length**.	Most function words are **short**.
frequency	Lexical words occur with **low frequencies**. Some of them only occur in specialized texts.	They occur **frequently** in any text. Some occur more frequently than others, though.
lexical meaning	Lexical words carry a **meaning**.	Function words **don't have a lexical meaning.**
morphology	Lexical words are **variable**. They can be inflected.	Function words are **invariable**.
stress	Lexical words usually carry the primary or secondary **stress**.	Function words are usually **unstressed** and often reduced.
role in phrase	Lexical words can be the **heads** of phrases.	Function words are **never the heads** of phrases.

Some Functional (Closed) Categories of English

➢ Let's see the functional categories of English.

1. Determiners

The class of determiners (D) is a little broader. It contains a number of subcategories including *articles, quantifiers, numerals, deictics,* and *possessive pronouns.* Determiners appear at the very beginning of English noun phrases.

Determiners of English (D)

       Articles: the, a, an

       Deictic articles: this, that, these, those, yon

       Quantifiers: every, some, many, most, few, all, each, any, less, fewer, no

       (Cardinal) numerals: one, two, three, four, etc.

       Possessive pronouns: my, your, his, her, its, our, their

       Some wh-question words: which, whose

2. Preposition (P):

➢ Prepositions appear before nouns (or more precisely, noun phrases). English prepositions include the following:

➢ Prepositions of English (P): to, from, under, over, with, by, at, above, before, after, through, near, on, off, for, in, into, of, during, across, without, since, until.

3. Complementizers:

➢ The class of complementizers (C) also connects structures together, but they embed one clause inside of another instead of keeping them on an equal level:

➢ Complementizers of English (C): that, for, if, whether

4. Conjunctions:

➢ Conjunctions (Conj) are words that connect two or more phrases together on an equal level:

➢ Conjunctions of English (Conj): and, or, nor, neither ... nor, either ... or

5. Tense:

➢ One of the most important categories that we'll use is the category of **tense** (T).

➢ For the moment we will not include tense suffixes such as *-ed* and *-s* in this class, and treat those as parts of verbs.

➢ Instead, the category T consists of auxiliaries, modals, and the non-finite tense marker. In the older syntactic literature, the category T is sometimes called Infl (inflection) or Aux (Auxiliary).

➢ Tense categories of English (T) .

      Auxiliaries: have/has/had, am/is/ are/was/were, do/ does/ did

      Modals: will, would, shall, should, can, could, may, might, must

      Non-finite tense marker: to

Subcategories and features of Nouns and verbs

➢ Each major part of speech category may have subtypes.

➢ For example, we listed six different kinds of D (articles, demonstrative, quantifiers) and three kinds of T (auxiliaries, modals, and the non-finite marker).

➢ The technical term for these subtypes is subcategories.

➢ But we shall be looking at the subcategories and features of Nouns and Verbs.

   Because one way to mark subcategories is through the use of features.

➢ One way to mark subcategories is through the use of ***features***.

➢ Consider the case of T (tense).

➢ To distinguish among the subcategories we can appeal to the features [±modal] and [±non-finite]:

➢ 1) Auxiliary   T[–modal, –nonfinite]

     Modal   T[+modal, –nonfinite]

     to   T[+modal, +nonfinite]

➢ We might similarly distinguish among tense forms using features like [±past] etc. So ***was*** is [+past]; ***is*** is [-past] etc.

Subcategories of Nouns

➢ Nouns can be divided into different subcategories.

➢ We shall see some basic subcategories:

plural vs. singular,   proper vs. common noun, count vs. mass noun,

pronoun vs anaphors

Singular vs plural noun distinction

➢ First let's distinguish along the line of plurality.

➢ English nouns can be either singular or plural.

➢ The distinction between singular and plural is usually morphologically marked with one of the plural endings like **-s** or **-es** (although it need not be, as in **sheep** or **deer**). Most singular nouns in English require a Determiner; plural ones do not require a Determiner, although they allow one:

2) a)   *Cat ate the spider.

   b)   The cat ate the spider.

   c)   Cats ate the spider.

   d)   The cats ate the spider.

➢ We mark this distinction with the feature [±PLURAL].

Count vs. Mass noun distinction

➢ Count nouns represent individual, "countable" elements.

• For example, *apple* is a count noun.

➢ "Mass nouns" usually can't be counted in the same way.

• For example *sincerity* and *air* are mass nouns. There are two easy distributional tests to distinguish between mass and count nouns.

➢ Mass nouns take the quantifier *much*, while count nouns take *many*.

3) a) many apples

    b)   *much apples/apple11

    c) *many sincerity

    d) *many air

    e) much sincerity

    f)   much air

➢ Like plurals, mass nouns generally don't require a determiner, but count nouns do:

4) *I ate apple.
   I ate the (an) apple.
   I ate sugar.
   I ate the sugar.
   He is filled with sincerity.
   I doubt his sincerity.

   We distinguish between count and mass nouns using the feature [±count].

Proper names and common nouns

➢ Proper nouns are the names of specific individuals, things, places, companies, etc.

  People: John, Mary

   • Places: London, Delhi

   • Things: The Statue of Liberty

➢ Common nouns are general: they usually name classes of things, people, and places rather than specific things, people, and places.
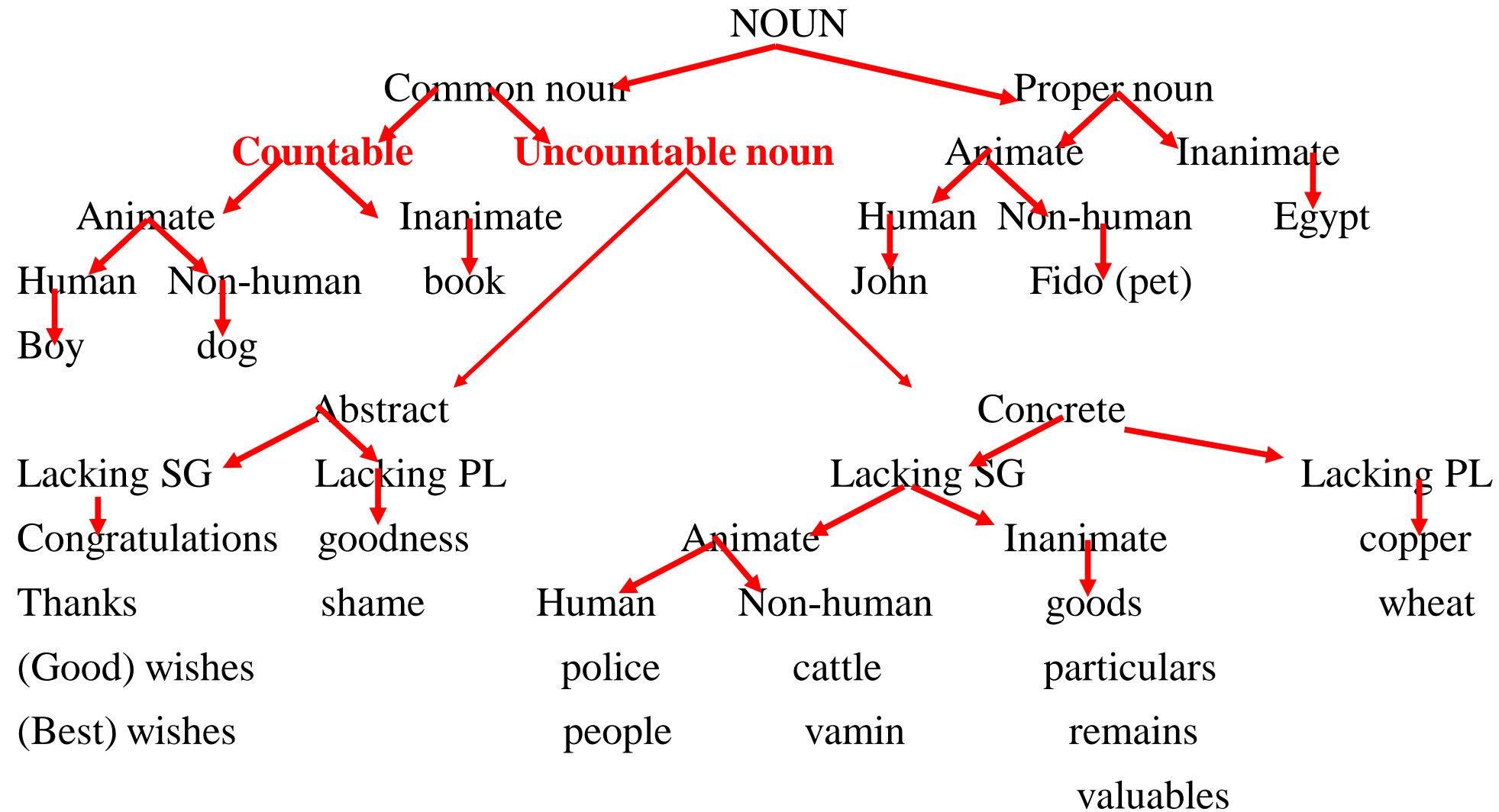
➢ Proper nouns are not modified by determiners (*the John)

  But common nouns can be modified by determiners (the dog)

➢ There are some exceptions to this generalization. Eg. when referring to a family it's common to say ***the Ambanis***.

➢ However, in other languages, proper names can take determiners.

➢ For example, in some dialects of Spanish,

  it is okay to say ***La Rosamaria*** "the Rosemary".

➢ If necessary, we can distinguish proper names from common nouns using the feature [±PROPER], although this feature is less useful than the others.

➢ Common Nouns can be subdivided into Countable and Uncountable

NOUN

Common noun → → Proper noun

Countable   **Uncountable noun**   Animate   Inanimate

Animate   Inanimate   Human   Non-human   Egypt

Human   Non-human   book   John   Fido (pet)

Boy   dog

Abstract   Concrete

Lacking SG   Lacking PL   Lacking SG   Lacking PL

Congratulations   goodness   Animate   Inanimate   copper

Thanks   shame   Human   Non-human   goods   wheat

(Good) wishes   police   cattle   particulars

(Best) wishes   people   vamin   remains

valuables

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Pronouns and anaphors vs Lexical nouns

➢ These classes differ from the others in that they are **closed word class**.

➢ They never allow determiners or adjectival modification.

5) a) he   b) himself

   c) *the he   d) *the himself

   e) *big he   f)   *big himself

➢ Pronouns belong to the class [+PRONOUN, –ANAPHOR].

➢ Anaphors   are [+PRONOUN, +ANAPHOR].

➢ All other nouns are [–PRONOUN, –ANAPHOR].

Subcategories of Verbs

➢ There are two major ways in which we can divide up verbs into subcategories.

  One is along the lines of **tense/finiteness**

   (i.e., whether the verb is *left, leaves, (will) leave* or *(to) leave)*.

➢ The **other way** is in terms of **the number of noun phrases (NPs) and prepositional phrases (PPs) or clauses (CPs) they require**. This second kind of division is known as argument structure.

➢ first we need to define some basic terms.

➢ In school grammar we might have learnt that **"every sentence has a subject and a predicate."**

➢ This would mean that the subject is usually **the first noun phrase** (that is, the first noun and all things that go along with it), and the predicate is everything else in the sentence.

➢ So for example, in (6) the subject is *the dastardly phonologist*, and the predicate would be *stole the syntactician's lunch*.

6) [The dastardly phonologist][stole the syntactician's lunch].
   subject   *predicate*   *(traditional definitions)*

➢ But in syntax, predicate is based on the mathematical notion of a "relation".

➢ The **predicate** defines the relation between the individuals being talked about and the real world – as well as among themselves. The entities (which can be abstract) participating in the relation are called **arguments**.

To see how this works, look at the following example:

7) John hit the baseball.

➢ There are two arguments in this example, *John* and *the baseball.*

• These are elements in the world that are participants in the action described by the sentence.

• The predicate here is *hit*. *Hit* expresses a relation between the two arguments: more precisely, it indicates that the **first argument (*John*)** is applying some force on the **second argument (*the baseball*)**. This may seem patently self-evident, but it's important to understand what is going on here on an abstract level. This usage of the terms predicate and argument is identical to how they are used in formal logic.

➢ We can speak about any particular predicate's ***argument structure***.

➢ This refers to the number of arguments that a particular predicate requires.

➢ Another name for argument structure is ***valency***.

➢ The word ***Take***, for example, **predicates that take only one argument** (i.e., **they have a valency of 1**). These are predicates like *smile*, *arrive*, *sit*, *run*, etc.

➢ The property of transitivity refers to how many arguments follow the verb. In predicates with a valency of 1, no arguments follow the verb (the single argument *precedes* the verb),

➢ So these predicates are said to be ***intransitive verbs***.

➢ **Predicates** that take **two obligatory arguments** have **a valency of 2**;

➢ Some examples are *hit*, *love*, *see*, *kiss*, *admire*, etc.

➢ These predicates are said to be *transitive*, because they have a single argument after the verb (the other argument precedes the verb).

➢ Finally **predicates** that take **three arguments** have **a valency of 3**.

➢ *Put* and *give* are the best examples of this class.

➢ These predicates have two arguments after the verb so are said to be *ditransitive verbs*.

Transitivity	Valency	Example
Intransitive	1 argument	smile, arrive
Transitive	2 arguments	hit, love, kiss
Ditransitive	3 arguments	give, put

In determining how many arguments a predicate has, we only consider the obligatory NPs and PPs. Optional ones are never counted in the list of arguments. Only obligatory elements are considered arguments.

➢ Predicates not only restrict the number of arguments that appear with them, they also restrict the categories of those arguments.

➢ A verb like *ask* can take either an NP or a clause (embedded sentence = CP) as a complement:

8)   a) I asked [$_{NP}$ the question].
    b) I asked [$_{CP}$ if you knew the answer].

But a verb like *hit* can only take an NP complement:

9)   a) I hit [$_{NP}$ the ball].
    b)*I hit [$_{CP}$ that you knew the answer].

➢ With these basics in mind, we can set up a series of features based on how many and what kind of arguments a verb takes.

➢ Let's start with **intransitives**. These require a single NP subject. We'll mark this with the feature [NP__] where the underscore represents where the verb would go in the sentence. An example of such a verb would be *leave, sleep, cough*.

➢ Examples of intransitive sentences (Subject and Verb only):

• John slept.
• Peter ran quickly.
• She left already.

➢ Most **transitive verbs** require an NP object, so we can mark these with the feature [NP___NP].

➢ An example of this is the verb *hit*.

10)   a) I hit [$_{NP}$ the ball].

➢ Verbs like *ask*, *think, say*, etc. allow either an NP object or a CP (embedded clause) object.

11) a) I asked [$_{NP}$ the question].
       b) I asked [$_{CP}$ if you knew the answer].

➢ We can mark this using curly brackets {} and a slash. {NP/CP} means "a choice of NP or CP".

➢ So the feature structure for predicates like this is [NP___{NP/CP}].

➢ **Ditransitive verbs** come in several major types.

➢ Some ditransitives require two NP objects (the first is an indirect object, the other a direct object).

➢ The verb *spare* is of this category. It does not allow an NP and a PP:

12) a) I spared [$_{NP}$ him] [$_{NP}$ the trouble].

    b) *I spared [$_{NP}$ the trouble] [$_{PP}$ to him].

➢ This category of ditransitive is marked with the feature [NP_____NP NP].

➢ The opposite kind of ditransitive is found with the verb *put*.

➢ *Put* requires an NP and a PP:

13) a) *I put [NP the box] [NP the book].

   b) I put [NP the book] [PP in the box].

➢ This kind of ditransitive takes the feature [NP ___ NP PP].

➢ We also have ditransitives that appear to be a combination of these two types and allow either an NP or a PP in the second position:

14) a) I gave [$_{NP}$ the box] [$_{PP}$ to Leah].

   b) I gave [$_{NP}$ Leah] [$_{NP}$ the box].

➢ These have the feature [NP ___ NP {NP/PP}].

➢ Finally we have ditransitives that take either two NPs, or one NP and one CP, or an NP and a PP:

15) a) I told [$_{NP}$ Daniel] [$_{NP}$ the story].

b) I told [$_{NP}$ Daniel] [$_{CP}$ that the exam was cancelled].

c) I told [$_{NP}$ the story] [$_{PP}$ to Daniel].

➢ Verbs like tell have the feature [NP_____ NP {NP/PP/CP}].

➢ The following chart summarizes all the different subcategories of verb we've discussed here:

Subcategory	Example
$V_{[NP\_]}$ (intransitive)	leave
$V_{[NP\_\_NP]}$ (transitive type 1)	hit
$V_{[NP\_\_\{NP/CP\}]}$ (transitive type 2)	ask
$V_{[NP\_\_NP\ NP]}$ (ditransitive type 1)	spare
$V_{[NP\_\_NP\ PP]}$ (ditransitive type 2)	put
$V_{[NP\_\_NP\ \{NP/PP\}]}$ (ditransitive type 3)	give
$V_{[NP\_\_NP\ \{NP/PP/CP\}]}$ (ditransitive type 4)	tell

Summing up the ideas covered

➢ ***Parts of Speech*** (*a.k.a.* ***Word Class***, ***Syntactic Categories***): The labels we give to constituents (N, V, Adj, Adv, D, P, T, Conj). These determine the position of the word in the sentence.

➢ ***Distribution***: Parts of speech are determined based on their distribution. We have both ***morphological distribution*** (what affixes are found on the word) and ***syntactic distribution*** (what other words are nearby).

➢ ***Complementary Distribution***: When you have two categories and they never appear in the same environment (context), you have complementary distribution. Typically complementary distribution means that the two categories are subtypes of a larger class.

➢ Parts of speech that are **Open Class** can take new members or coinages: N, V, Adj, Adv.

➢ Parts of speech that are **Closed Class** don't allow new coinages: D, P, Conj, C, T, Neg, and the pronoun and anaphor subcategories of N.

➢ **Lexical Categories** express the content of the sentence. N (including pronouns), V, Adj, Adv.

➢ **Functional Categories** contain the grammatical information in a sentence: D, P, Conj, T, Neg, C.

➤ ***Subcategories***: The major parts of speech can often be divided up into subtypes. These are called subcategories.

➤ ***Feature Notations*** on major categories are a mechanism for indicating subcategories.

➤ ***Plurality*** refers to the number of nouns. It is usually indicated in English with an *-s* suffix. Plural nouns in English do not require a determiner.

➤ ***Count vs. Mass***: Count nouns can appear with determiners and the quantifier *many*. Mass nouns appear with *much* and usually don't have articles.

➢ The ***Predicate*** defines the relation between the individuals being talked about and some fact about them, as well as relations among the arguments.

➢ ***Argument Structure***: The number of arguments that a predicate takes.

➢ The ***Arguments*** are the entities that are participating in the predicate relation.

➢ ***Intransitive***: A predicate that takes only one argument.

➢ ***Transitive***: A predicate that takes two arguments.

➢ ***Ditransitive***: A predicate that takes three arguments.

Summing up

o Distinguish between distributional and semantic definitions of parts of speech.

o Identify a part of speech by its distribution.

o Know the difference between an open-class and a closed-class part of speech.

o Explain the difference between lexical and functional categories.

o Identify different subcategories using feature notations.

o Identify plural nouns, mass nouns and distinguish them with features.

o Explain the difference between predicates and arguments.

o Categorize verbs according to their argument structure (intransitive, transitive, ditransitive) and represent this using features.

Problem Sets

EX. 1: Identify the main parts of speech (i.e., <u>No</u>uns, <u>Ve</u>rbs, <u>Adj</u>ectives/<u>Ad</u>verbs, and <u>Pr</u>epositions) in the following sentences. Treat hyphenated words as single words:

a) The old rusty pot-belly stove has been replaced.

b) The red-haired assistant put the vital documents through the new efficient shredder.

c) The large evil leathery alligator complained to his aging keeper about his extremely unattractive description.

d) I just ate the last piece of chocolate cake.

Exercise 2

Identify all word categories in the sentence below.

The   large   evil   leathery   alligator   complained
D   Adj   Adj   Adj   N   V

to   [her   aging   keeper]   that   her
P   D   Adj   N   C   D

extremely ──→ unattractive   description   bothered
  Adv   Adj   N   V

other   people
Adj   N

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EX. 3: SUBCATEGORIES OF NOUNS

For each of the nouns below put a + sign in the box under the features that they have. Note that some nouns might have a plus value for more than one feature. The first one is done for you. Do not mark the minus (–) values, or the values for which the word is not specified; mark only the plus values!

Noun	PLURAL	COUNT	PROPER	PRONOUN	ANAPHOR
cats	+	+			
milk					
New York					
they					
people					
language					
printer					
himself					
wind					
lightbulb					

EX. 4: SUBCATEGORIES OF VERBS

For each of the verbs below, list whether it is intransitive, transitive or ditransitive and list which features it takes. In some cases they may allow more than one feature (e.g., the verb *eat* is both [NP__NP] and [NP ___]). Give an example for each feature:

spray, sleep, escape, throw, wipe, say, think, begrudge (or

grudge), thank, pour, send, promise, kiss, arrive

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