Syntax Seminar

Showing the structure. Selection. Categories.

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At home, for the next class:

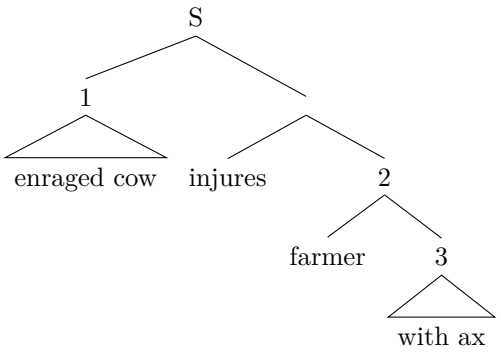
- Read BESE, 1.2, 1.3, 2.1.
- Read this handout, do the optional exercises. Make sure that everything is clear. If you have any questions – send me an email or ask me next time in class (do not hesitate to do that!)

1 Showing structures

Constituents are embedded one inside another to form bigger constituents → an organized structure.
This can be shown using **a bracketed notation** or using **a hierarchical tree structure**.

(1) a. ENRAGED COW INJURES FARMER WITH AX
b. [[enraged cow][injures [farmer [with ax]]]]
c. [[enraged cow][[injures [farmer]] [with ax]]]

(2)



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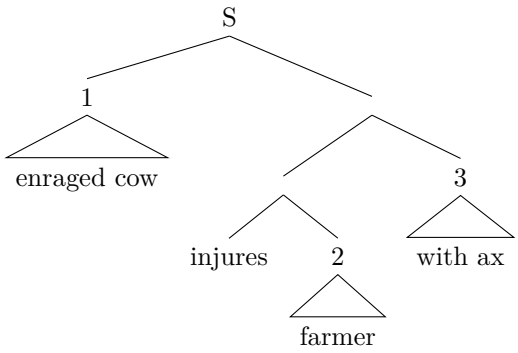
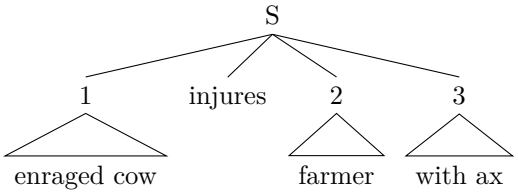


*For now we can use numbers to label constituents. We will talk more about labeling in the next class.
How to talk about tree structures:
branches, nodes, root node (= the topmost node in a tree), terminal nodes (= leaves; nodes that do not branch further); mother, daughter, sisters.
❗ A set of elements forms a constituent in a tree diagram if and only if there is a single node that dominates just these elements, and no other items.
Properties of syntactic structures:

1. a single main ROOT,
2. no cycles,
3. binary branching ❗

❓ How do we now that syntactic structures are binary? Why can't we have **a flat structure**, as in (4)?

(4)



Flat structure implies that (1) the verb and the object (and possibly some modifiers) do not form a constituent that would exclude the subject, and (2) the subject and the object are "on the same level".
❗ Hierarchy matters!

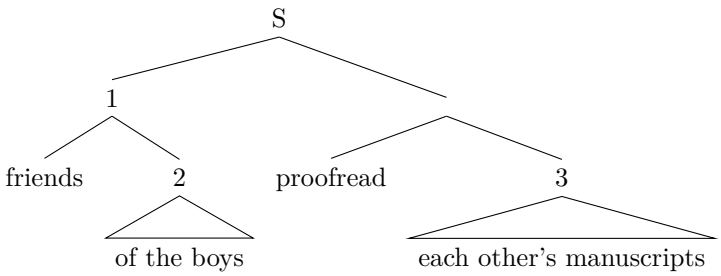
(5) The verb and the object form a constituent:
   a. Anna said that she would hug John and [hug John] she did.
   b. What Anna did was [hug John].
   c. *Anna said that she would hug John and [Anna hug] did John.
   d. *What John did was [Anna hug].

(6) The subject and the object are **not** "on the same level":
   a. [The boys] proofread [each other's manuscripts].
   b. *[Each other] proofread [the boys manuscripts].

Precedence – Node A precedes node B if and only if neither A dominates B nor B dominates A and A or some node dominating A sister-precedes B or some node dominating B.
Sister precedence: Node A sister-precedes node B if and only if both are immediately dominated by the same node, and A appears to the left of B.
c-command – (informal): A node c-commands its sisters and all the daughters (and granddaughters, and great-granddaughters, etc.) of its sisters. (formal) Node A c-commands node B if every node dominating A also dominates B and neither A nor B dominates the other.

(7) *[Friends$_i$ of the boys$_k$] proofread [each other$_{i/*k}$'s manuscripts].

(8)



← This restriction can be captured in terms of c-command but not in terms of precedence.

2 Categories

2.1 The overgeneration problem

Recall that words are organized together to form units, constituents, together.

? Are there any syntactic restrictions that apply to building constituents?

✱ Recall that some sentences are perfectly grammatical but not acceptable because they are difficult to interpret at LF → There must be some semantic restrictions, but at this point we are interested in syntactic restrictions.

(9) Semantic restrictions:

a. #The table doesn't know anything.
b. #Bill kissed a cloud.
c. #Mary saw a very intelligent room.

(10) Syntactic restrictions:

a. Mary saw a very quiet/*quietly room.
b. Mary sings very quietly/*quiet.
c. John was impressed by their beauty/*beautiful/*beautify.
d. Susan beautified/*beauty/*beautiful the interior of the castle.
e. These kittens are so beautiful/*beauty/*beautify.

! Lexical items belong to different ***categories*** (= parts of speech), depending on their **syntactic** and **morphological** distribution.

2.2 Lexical categories

Lexical categories (these come with lexical meanings): Nouns (N), Verbs (V), Adjectives (Adj) and adverbs (Adv), Prepositions/postpositions (P).

? Cf. traditional definitions: *Nouns* – words that refer to people, animals, and objects. *Verbs* – words that refer to actions. Can you come up with counterexamples?

(11) Different categories but roughly the same semantic contribution:

a. Tucker **is** stinky. – Adj
b. Tucker **is a** stinker. – N
c. Tucker stink**s**. – V

✱ Exercise: identify the category of each word in italics in the following example. What helped you make a choice?

(12) The *yinkish dripner blorked quastofically* into the *nindin* with the *pidibs*.

Distributional criteria:

- morphological distribution:
  derivational morphemes derive words of a particular category
  inflectional morphemes attach to words of a particular category.
- syntactic distribution: the word's position in a sentence, its possible modifiers.

❗ Categories can be subcategorized further, based on some **features**.

(13) Subcategorizing nouns:
  a. [±count] – count vs mass nouns
  b. [±pronoun], [±anaphor] – (personal) pronouns vs anaphors vs referential nouns

(14) Subcategorizing verbs (based on the number of obligatory nominals, participants, they co-occur with):
  a. 1 participant – intransitive
     run, smile, sneeze
  b. 2 participants – transitive *eat, love, kiss, build, destroy, wait*
  c. 3 participants – ditransitive *give, send, put*

The major categories themselves can be presented as combinations of features:

(15) a. Nouns [+N, -V]
  b. Verbs [-N, +V]
  c. Adjectives [+N, +V]
  d. Prepositions [-N, -V]

Distributional properties can be associated with certain features: e.g. 'allowing a direct object' – [-N].

2.3 Functional categories

❓ Try to define the lexical meanings of the words *the, can* (as in *I can dance*), *very*. Is it possible?
❗ Not all words have a lexical meaning. Some words merely have a function tp provide some grammatical information.
Functional categories: Determiners (D/Det), Inflections (Infl), Degree modifiers (Deg), Complementizers (Comp), Conjunctions (Conj), Negation (Neg).
Infl: *can, must, will* ... Comp: *that, if.* Conj: and, or, nor ...
Note: functional categories are **closed** groups, while lexical categories are **open** groups.

❗ **Prepositions and postpositions**
Carnie proposes to analyze prepositions as a functional category. However, in this course we will treat them as a **lexical** category, P. Prepositions can be predicates – e.g. in (16) prepositions denote a specific relation between the two participants. Ps can also be modified, see (17).

(16) [This book] is [by/for/from/about/above [John]].

(17) I sent these letters [straight/directly **to** John].

3 Back to constituents: Phrases and heads

Phrases = constituents that pass the constituency tests.

❗ Individual words can be called constituents but they are not always phrases. The **coordination** test helps us to distinguish between the two cases – only phrases can be coordinated with phrases.

(18) a. I saw [John] and [fluffy cats]. – [John] is a phrase
b. I saw [dogs] and [fluffy cats]. – [dogs] is a phrase
c. *I saw *dog* and [fluffy cats]. – *dog* is not a phrase

❗ Every phrase must have a ***head*** (and only one head) that determines the category of the phrase.

→ NP = Nominal Phrase (a noun as the head), VP = Verbal Phrase (a verb as the head), AdjP = Adjectival Phrase, PP = Pre/postpositional Phrase ...

Note: the head **cannot** be a complex constituent (i.e. it cannot have a complex internal structure).

✱ Determine the head and the category of each of the bracketed phrases in the examples below. Draw the tree structures for the bracketed phrases labelling the nodes.

(19) a. [Fluffy hamsters] are very dangerous.
b. Mary can [sing arias].

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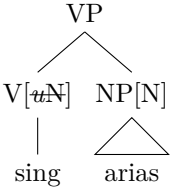
4 Categorial-selection

❓ Let's go back to the subcategories of verbs. How can we model the fact that some verbs require a nominal dependent but cannot appear, for instance, with an adjective or another verb?

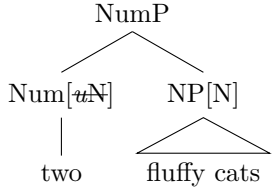
❗ Categorial selectional features = ***c-selectional features*** – categorial features responsible for selection. The head can select its sister.

Recall that NPs have an **interpretable** [N] feature. Let's assume that some verbs have an **uninterpretable** [N] feature (that is, it does not contribute to their semantics and does not matter at LF) that they **must** check before the derivation (i.e. sentence-building) is completed.

(20)



(21)



The ***Full Interpretation*** constraint: The structure to which the semantic interface rules apply contains no uninterpretable features.

The ***Checking Requirement***: Uninterpretable (c-selectional) features must be checked, and once checked, they can delete.

Checking under Sisterhood: An uninterpretable c-selectional feature F on a syntactic object Y is checked when Y is sister to another syntactic object Z which bears a matching feature F.

Note: Modifiers are **not** selected! A sentence will not be ungrammatical if there are no modifiers.

✱ At home

1. *Optional*: Can you think of a construction that can be analyzed in terms of flat structure, more specifically, as a ternary branching structure? That is, [X Y Z] and not, for instance, [X [Y Z]].
2. *Optional*: (22) is structurally ambiguous. Outline the two possible structures of the sentence as trees.

(22) Susan accidentally pushed the button twice.

3. **Optional**: Think about lexical adverbs (consider data from English). Should they be treated as a separate category? Can they be combined with adjectives into a single category A? Why yes/no?

[The answers to the optional tasks are at the end of HO3]

scroll down to see the answers to the optional exercise from HO1

HO1. In (23) you will find several Sanskrit verbs (a) and their translations into English, written in a different word order (b). Match the Sanskrit verbs with the correct translations. Write down the syntactic rules of Sanskrit that these data allowed you to come up with. Are there any similarities between Sanskrit and English? [The answers are at the end of HO2]

(23) a. Sanskrit: nayasi, icchati, anayam, nayāmi, icchasi, icchāmi, anayat
b. English: I want, you lead, he wants, I lead, I led, you want, he led.

Answers: nayasi = you lead, nayāmi = I lead, anayam = I led, anayat = he led, icchasi = you want, icchāmi = I want, icchati = he wants.
naya = lead, *iccha* = want
-i = present tense, a- = past tense
-m = I (1sg subject), -t = he (3sg subject), -s = you (2 subject)